

# User Manual

## SCAMAX® Document Scanner

### Type: H12

*Version 2019.12*



**InoTec GmbH · Biedrichstrasse 11 · 61200 Woelfersheim**  
Tel.: +49 (0) 6036 9708-0 · Fax: +49 (0) 6036 9708-15  
eMail: [info@inotec.eu](mailto:info@inotec.eu) · <http://www.inotec.eu>

## Table of Contents

<b>1. Introduction</b>	<b>11</b>
1.1. Safety instructions	11
1.2. Specific Danger Spots	11
1.2.1. Unmarked Danger Spots	11
1.2.1.1. Covers	11
1.2.1.2. Dust Exposure	12
1.2.1.3. Dual Input Hopper	12
1.2.1.4. Input tray	12
1.2.2. Marked Danger Spots	12
1.2.2.1. General Danger Spot	12
1.2.2.2. Danger Spot Seize/Entangle	13
1.2.2.3. Danger Spot Crush/Jam 1	13
1.2.2.4. Danger Spot Crush/Jam 2	14
1.2.2.5. Danger Spot Crush/Jam 3	14
1.2.2.6. Danger Spot Electrical Voltage	14
<b>2. General description</b>	<b>15</b>
2.1. SCAMAX® upgrade concept 801/811/821	16
2.2. Extensions/options	16
2.2.1. Dual Input Hopper	16
2.2.2. HighSpeed Stacker Arm	16
2.2.3. 2nd Output Hopper	16
2.2.4. Imprinter HD	16
2.2.5. Straight Through Paper Path Elevation	17
2.2.6. Extension kits for over-sized documents	17
2.3. Device Views	18
2.3.1. Front Views	18
2.3.1.1. Basic Model	18
2.3.1.2. Expansion Stage (Dual Input Hopper / 2nd Output Hopper)	19
2.3.2. Rear View	19
2.3.3. Interior Scan Plane	20
2.3.4. View Imprinter	20
<b>3. Startup Operation</b>	<b>21</b>
3.1. Scope of Delivery	21

3.2.	Setting Up the Device . . . . .	22
3.3.	Relocating the unit . . . . .	22
3.4.	Connecting the Device . . . . .	22
3.4.1.	Power Supply / Main Switch . . . . .	23
3.4.2.	USB3 Port for Scan Jobs . . . . .	23
3.4.3.	USB Ports for Input Devices or Data Storage . . . . .	23
3.4.4.	Network Connection for Batch Transfer . . . . .	23
3.4.5.	Connecting the External Image Display (optional) . . . . .	24
3.5.	Switching the Device On and Off / Initialization After Start . . . . .	24
3.6.	Installation of Drivers . . . . .	25
3.6.1.	USB Device Driver . . . . .	25
3.6.2.	TWAIN™ Driver . . . . .	25
3.6.3.	ISIS-compatible Driver (MS61) . . . . .	26
4.	Capacitive Touchscreen . . . . .	27
4.1.	Division of the Display Surface . . . . .	27
4.1.1.	Status . . . . .	27
4.1.2.	User . . . . .	27
4.1.3.	Info . . . . .	28
4.1.4.	Navigation Bar . . . . .	28
4.1.5.	Display Area . . . . .	28
4.1.6.	Tool Bar . . . . .	28
4.2.	Operation Methods . . . . .	29
4.2.1.	Input Fields . . . . .	29
4.2.2.	Color Picker Dialog . . . . .	30
4.2.3.	Event List . . . . .	31
4.3.	Scan Processing . . . . .	32
4.3.1.	Division of Scan Screen . . . . .	32
4.3.1.1.	Stream Information . . . . .	32
4.3.1.2.	Sheet Information . . . . .	32
4.3.1.3.	Output Information . . . . .	33
4.3.1.4.	Counter Information . . . . .	33
4.3.1.5.	Button Bar . . . . .	33
4.3.1.5.1.	Modifying Quick-Access Buttons . . . . .	33
4.3.2.	Job and Profile Selection . . . . .	34
4.4.	User Settings . . . . .	35

<b>4.5. Job Management</b> <i>(Administrator Rights required!)</i> .....	36
4.5.1. General .....	37
4.5.2. Profile Selection .....	37
4.5.3. Counters .....	37
4.5.4. Index File .....	38
<b>4.6. Profile Management</b> <i>(Administrator Rights required!)</i> .....	39
4.6.1. General.....	40
4.6.1.1. Privilege Level .....	40
4.6.1.2. Access Function Buttons .....	40
4.6.1.3. Quick-Access Buttons .....	40
4.6.2. Image .....	42
4.6.2.1. Image Presettings .....	42
4.6.2.1.1. Enable Moiré Filter .....	42
4.6.2.1.2. Gamma Correction .....	43
4.6.2.1.3. White Background .....	43
4.6.2.1.4. Add/Remove Borders .....	43
4.6.2.1.5. Resize Image .....	44
4.6.2.2. Color Dropout .....	44
4.6.2.2.1. Separate Channel.....	44
4.6.2.2.2. Dropout Setting 1-3.....	45
4.6.2.2.3. Fill Color .....	46
4.6.2.2.4. Dropout at .....	46
4.6.2.3. Resolution .....	46
4.6.2.4. Delete Image(s) at.....	47
4.6.2.5. Front/Rear Side Settings .....	47
4.6.2.5.1. Color .....	47
4.6.2.5.2. Gray .....	49
4.6.2.5.3. Bitonal .....	49
4.6.2.5.4. Stream Control .....	52
4.6.2.5.5. Blank Page Detection .....	55
4.6.3. Input/Output .....	56
4.6.3.1. Paper.....	56
4.6.3.1.1. Format Selection .....	56
4.6.3.1.2. Paper Path Elevation .....	57
4.6.3.2. Input .....	57
4.6.3.2.1. Feeder Mode .....	58
4.6.3.2.2. Separation .....	58
4.6.3.2.3. Feeder Capacity .....	58
4.6.3.2.4. Camera Threshold .....	58
4.6.3.3. Output .....	58
4.6.3.3.1. Switch Out1/Out2 at .....	59
4.6.3.3.2. Output to Tray 1/2 at .....	59

4.6.3.3.3.	Current Output to Tray 1/Tray 2/Rear at . . . . .	59
4.6.3.3.4.	Next Output to Tray 1/Tray 2/Rear at . . . . .	59
4.6.3.3.5.	Switch Front/Rear at . . . . .	59
4.6.3.4.	Orientation . . . . .	60
4.6.3.4.1.	Paper Input Orientation . . . . .	60
4.6.3.4.2.	Output Image Orientation . . . . .	60
4.6.3.4.3.	Additional Back Orientation. . . . .	60
4.6.3.4.4.	Text Orientation . . . . .	60
4.6.3.5.	Deskew . . . . .	61
4.6.3.5.1.	Edge Threshold . . . . .	61
4.6.3.5.2.	Deskew Fill Color . . . . .	61
4.6.3.5.3.	Advanced Settings. . . . .	61
4.6.4.	Scanner . . . . .	62
4.6.4.1.	Double Feed Detection . . . . .	62
4.6.4.1.1.	Activate/Deactivate. . . . .	62
4.6.4.1.2.	Stop at Input. . . . .	63
4.6.4.1.3.	Reaction at Detection . . . . .	63
4.6.4.1.4.	Show DF Images . . . . .	63
4.6.4.1.5.	Continue after Delete . . . . .	63
4.6.4.1.6.	Sensor Configuration . . . . .	64
4.6.4.2.	Control Settings . . . . .	64
4.6.4.2.1.	Scan Speed . . . . .	65
4.6.4.2.2.	Use High Speed Stacker Arm . . . . .	65
4.6.4.2.3.	Output Hopper Sensor Range . . . . .	65
4.6.4.2.4.	Input Hopper Down . . . . .	65
4.6.4.2.5.	Sheet Not Valid until Output . . . . .	65
4.6.4.2.6.	Scan Pause at . . . . .	66
4.6.4.2.7.	Shorter Than/Longer Than . . . . .	66
4.6.4.2.8.	Optimized Gap/Additional Feeding Gap . . . . .	66
4.6.4.2.9.	Manual Feed Lag . . . . .	66
4.6.4.3.	Patch Decoder Settings . . . . .	67
4.6.4.3.1.	Read on . . . . .	67
4.6.4.3.2.	Read Area . . . . .	67
4.6.4.3.3.	Threshold . . . . .	67
4.6.4.3.4.	Required Tracks at Input. . . . .	68
4.6.4.3.5.	Verified Detection at Input. . . . .	68
4.6.4.3.6.	Delete Patch Code Sheets. . . . .	68
4.6.4.4.	Barcode Settings . . . . .	68
4.6.4.4.1.	Read on . . . . .	69
4.6.4.4.2.	Barcode Types . . . . .	69
4.6.4.4.3.	Threshold . . . . .	69
4.6.4.4.4.	Trigger Value . . . . .	69

4.6.5. Counters .....	70
4.6.5.1. Counter Settings .....	70
4.6.5.1.1. Counter Value .....	70
4.6.5.1.2. Description .....	70
4.6.5.1.3. Counter Increment .....	71
4.6.5.1.4. Counter Reset .....	71
4.6.5.1.5. Trigger Value .....	71
4.6.6. Annotations .....	71
4.6.6.1. Imprinter Front/Back .....	71
4.6.6.1.1. Enable/Disable Imprinter .....	72
4.6.6.1.2. Print Text .....	72
4.6.6.1.3. Print Margin .....	74
4.6.6.2. BatesStamp Front/Back .....	75
4.6.6.2.1. Load Settings .....	75
4.6.6.2.2. Enable/Disable BatesStamp .....	75
4.6.6.2.3. Print Text .....	75
4.6.6.2.4. Font .....	76
4.6.6.2.5. Background .....	76
4.6.6.2.6. Positioning .....	76
4.6.7. Interfacing .....	76
4.6.7.1. Enable Length Control .....	77
4.6.7.2. Error Handling on Scanner .....	77
4.6.7.3. Wait for Paper .....	77
4.6.8. Rules .....	77
4.6.8.1. Rule Definition .....	78
4.6.8.2. Actions .....	78
4.6.8.3. Conditions .....	79
4.6.8.4. Complex Rules .....	80
4.6.8.4.1. Hierarchical Rules .....	81
4.7. Administration <i>(Administrator Rights required!)</i> .....	82
4.7.1. User Management .....	82
4.7.2. Calibration .....	83
4.7.2.1. Gain Calibration .....	83
4.7.2.2. White Calibration .....	83
4.7.2.3. OS Calibration .....	83
4.7.2.4. US Calibration .....	83
4.7.3. Option Management .....	84
4.7.4. Time Settings .....	84
4.7.5. Scanner Settings .....	84
4.7.5.1. System Language .....	85
4.7.5.2. Inactivity Timeout .....	85
4.7.5.3. Input/Output Hopper Down .....	85

4.7.5.4. Ink Imprinter Front/Back .....	85
4.7.6. Export/Import - Updates .....	85
4.7.6.1. Job/Profile Export .....	85
4.7.6.2. Job/Profile Import .....	86
4.7.6.3. Export all/last Logfiles .....	87
4.7.6.4. Scanner Info Export .....	87
4.7.6.5. Start Update .....	87
<b>5. Scanning Documents .....</b>	<b>88</b>
5.1. Preparation of Documents .....	88
5.2. Einstellen der Arbeitshöhe .....	88
5.3. Operation of the Input System .....	89
5.3.1. Paper Separation Adjustment .....	89
5.3.2. Friction Linings Types .....	89
5.4. Input Hopper .....	90
5.4.1. Input Plate .....	90
5.4.2. Setting Options Paper Input .....	90
5.4.3. Using the Single Input Hopper .....	91
5.4.4. Using the Dual Input Hopper .....	92
5.5. Scan Plane .....	93
5.5.1. Scan Background .....	93
5.5.2. Paper Passage Setting .....	93
5.6. Paper Output .....	94
5.7. Output Hopper .....	95
5.7.1. Setting Options Output Hopper .....	95
5.7.2. HighSpeed Stacker Arm .....	96
5.7.3. HighSpeed / Open Output Mode .....	97
5.7.4. Use of One Output Hopper .....	98
5.7.5. Use of Two Output Hoppers .....	99
5.7.6. Using the Rear Output Tray .....	99
5.7.6.1. Straight Through Paper Path .....	100
5.8. Start / Stop of the Scanner .....	101
5.8.1. Start / Pause the Scan Process .....	101
5.8.2. Quick-Stop of the Scanner .....	101
<b>6. Opening the Scanner .....</b>	<b>102</b>
6.1. Opening/Closing the Scan Plane .....	102

6.2.	Opening/Closing the Output Hopper(s) .....	103
6.2.1.	... with One Output Hopper .....	103
6.2.2.	... with Two Output Hoppers .....	103
6.3.	Removing/Attaching the Cover Output Hopper .....	104
6.4.	Opening/Closing the Intermediate Drive Unit .....	104
6.5.	Removing/Attaching the Base Cover .....	105
6.6.	Removing/Inserting the Rear Output Pressure Unit .....	105
7.	Cleaning and Maintenance .....	106
7.1.	Cleaning Accessory .....	106
7.2.	Cleaning/Maintenance of the Paper Input .....	107
7.2.1.	Cleaning the Feeder Roller Friction Linings- .....	107
7.2.2.	Replacing the Feeder Roller Friction Linings .....	108
7.2.3.	Cleaning the Separation Roller Friction Linings .....	109
7.2.4.	Replacing the Separation Roller Friction Linings .....	109
7.3.	Cleaning/Maintenance of the Scan Plane .....	109
7.3.1.	Cleaning the Ultra Sonic Sensors .....	110
7.3.2.	Cleaning the Scan Areas .....	110
7.3.3.	Vacuum Cleaning Below the Scan Plane .....	110
7.3.4.	Maintenance/Replacement of the Paper Guide Springs .....	111
8.	Imprinter .....	112
8.1.	Imprinter Front (Before Scanning) .....	112
8.2.	Imprinter Back (After Scanning) .....	112
8.3.	Ink Cartridge of the Imprinter .....	113
8.3.1.	Installation/Change of an Ink Cartridge .....	113
8.3.2.	Capacity of the Ink Cartridges .....	114
8.4.	Choice of Print Position .....	115
9.	Disruptions .....	116
9.1.	Warning Messages .....	116
9.1.1.	Scanner Open (Warning 100) .....	116
9.1.2.	(2nd) Output Hopper Open (Warning 101/102) .....	117
9.1.3.	Roller Assembly Incorrectly Installed (Warning 103) .....	117
9.1.4.	(2nd) HS Stacker Arm in Wrong Position (Warning 104/105) .....	117
9.1.5.	Cartridge Imprinter Front/Back Undetected (Warning 106/107) .....	117

9.1.6. Calibration in Progress (Warning 108) . . . . .	117
9.1.7. (2nd) Output Tray Full (Warning 109/110) . . . . .	118
9.1.8. Base Cover Opened (Warning 111) . . . . .	118
9.1.9. Cover Output Hopper (Top) Opened (Warning 112/113) . . . . .	118
9.1.10. Changing Straight Through Paper Path (Warning 114) . . . . .	118
9.1.11. Test Scan Mode is active (Warning 125) . . . . .	118
9.1.12. Rear Output Active (Warning 127) . . . . .	119
9.1.13. Imprinter Front/Back Low On Ink (Warning 128/129). . . . .	119
9.1.14. Roller Assembly Not Installed (Warning 130) . . . . .	119
9.1.15. Input Tray(s) Not Installed Properly (Warning 133) . . . . .	119
9.2. Error Messages . . . . .	120
9.2.1. Scanner Opened While Scanning (Error 200). . . . .	120
9.2.2. (2nd) Output Hopper Open (Error 201/202) . . . . .	121
9.2.3. Roller Assembly Incorrectly Installed (Error 203) . . . . .	121
9.2.4. (2nd) HS Stacker Arm in Wrong Position (Error 204/205) . . . . .	121
9.2.5. Cartridge Imprinter Front/Back Undetected (Error 206/207) . . . . .	121
9.2.6. (2nd) Output Tray Full (Error 208/209) . . . . .	121
9.2.7. Paper Jam at Paper Input (Error 210) . . . . .	122
9.2.8. Paper Jam at Scan Area (Error 211/237/238/239/240) . . . . .	122
9.2.9. Paper Jam at Rear Output Area (Error 212) . . . . .	122
9.2.10. Paper Jam at Lower/Upper Transport Path (Error 213/214) . . . . .	122
9.2.11. Paper Jam Before (2nd) Paper Output (Error 215/216) . . . . .	123
9.2.12. Paper Jam Inside (2nd) Output Tray (Error 217/218) . . . . .	123
9.2.13. Paper Jam Inside (2nd) Output Tray (Error 219/220) . . . . .	123
9.2.14. Double Feed Detected (Error 221). . . . .	123
9.2.15. Button Quick-Stop Pressed (Error 222). . . . .	124
9.2.16. Switch Input Hopper Failed (Error 223) . . . . .	124
9.2.17. Calibration Failed (Error 224) . . . . .	124
9.2.18. Paper Inside Paper Input (Error 225). . . . .	124
9.2.19. Paper Inside Scan Area (Error 226) . . . . .	124
9.2.20. Paper Inside Rear Output Area (Error 227) . . . . .	125
9.2.21. Paper Inside Upper/Lower Transport Path (Error 228/230). . . . .	125
9.2.22. Paper Inside (2nd) Output Area (Error 229/231). . . . .	125
9.2.23. Input Tray(s) Not Installed Properly (Error 232). . . . .	125
9.2.24. Base Cover Opened (Error 233) . . . . .	126
9.2.25. Cover Output Hopper (Top) Opened (Error 234/235) . . . . .	126
9.2.26. Sheet Overlength (Error 236) . . . . .	126

9.2.27. Stepper Driver Overheated (Error 241) . . . . .	126
9.2.28. Patch Detection Inconsistency (Error 242) . . . . .	126
9.2.29. Error while Opening/Closing the Scan Plane (Error 243) . . . . .	127
9.2.30. Imprinter Front Wrong Value (Error 245) . . . . .	127
9.2.31. Export Media Not Found (Error 246/251/270) . . . . .	127
9.2.32. Import File Not Found (Error 247) . . . . .	127
9.2.33. Import File Version Incompatible (Error 248) . . . . .	127
9.2.34. Name Clash at Import (Error 249) . . . . .	128
9.2.35. Reference Unresolved at Import (Error 250) . . . . .	128
9.2.36. Linak Error Detected (Error 252) . . . . .	128
9.2.37. Linak Uncalibrated (Error 253) . . . . .	128
9.2.38. Double Feed at Paper Input Detected (Error 254) . . . . .	128
9.2.39. Barcode Check Digit Wrong (Error 255) . . . . .	129
9.2.40. Barcode Too Long (Error 256) . . . . .	129
9.2.41. Double Feed Detected Too Late (Error 257) . . . . .	129
9.2.42. User Unknown (Error 266) . . . . .	129
9.2.43. Wrong Password (Error 267) . . . . .	129
9.2.44. Roller Assembly Not Installed (Error 271) . . . . .	130
9.3. Internal Warning/Error Messages > 800 . . . . .	130
9.4. Hardware Error Messages > 900 . . . . .	130
9.5. Image Disruptions . . . . .	131
9.5.1. Poor Image Quality . . . . .	131
9.5.2. Lines in the image . . . . .	131
<b>10. Attachments . . . . .</b>	<b>132</b>
10.1. Technical Specification . . . . .	132
10.2. Scan Speeds 801 / 811 / 821 - A4/Letter . . . . .	134
10.3. Contact Information . . . . .	134
10.4. Warning/Error Code Table . . . . .	135

## 1. Introduction

This manual contains information about the correct handling of SCAMAX® document scanners, type H12. This type includes the models 801, 811 and 821.

Additional models and special editions with a different configuration are possible.

All models are identical in design. If a specific model is not explicitly mentioned in this manual, the description covers all models alike. In order to exclude operating errors, before you start working with the SCAMAX® scanner, the pertinent safety precautions in this manual are to be observed.

This manual only describes the operation of SCAMAX® H12 type scanners and the integrated software interface. The operation of external scanning software and the scanning computers used with them from other manufacturers can be found in the respective manuals.

### 1.1. Safety instructions

The unit may only be connected to a grounded outlet.

Removing of housings using tools is **only** permitted for trained technicians and authorized experts. Under normal conditions the removing of housings isn't necessary.

Risk due to moving parts! Keep fingers and other body parts away.

#### **WARNING**

All paragraphs with **WARNING** indicate that injury to the operator may be possible in case of non compliance.

#### **CAUTION**

All paragraphs with **CAUTION** point out that non-observance can cause damage to the device under certain circumstances.

### 1.2. Specific Danger Spots

While running, moving or opening and closing the unit, specific danger spots can arise which are partially marked with warning decals and described in the following chapters. All figures are based on a unit with full expansion (*Dual Input Hopper and 2nd Output Hopper*), as certain danger spots are only existing with those modules.

#### **WARNING**

As an non-observance of the subsequent described danger spots can result in substantial injuries, unconditional attention should be paid to all related notes and handling instructions.

#### 1.2.1. Unmarked Danger Spots

##### 1.2.1.1. Covers

The scanner may only be operated with closed covers (*see chapter 6.3./6.5.*). Magnetic switches at all relevant positions prevent from operation with opened covers. When reaching into the covered area, a small risk of pinching and grazing remains, due to exposed parts of the transport mechanism.

### 1.2.1.2. Dust Exposure

Dependent on age, condition and the previous storage of the scan documents the dust exposure can increase in the immediate vicinity of the scanner. If symptoms like tussive or mucosal irritations suddenly occur in coherence to such a material, an adequate ventilation should be ensured. In extreme cases a suitable inhalation protection must be used.

### 1.2.1.3. Dual Input Hopper

The Dual Input Hopper isn't blocked anymore and can be moved manually if the scanner is powered off. Because of that, the Dual Input Hopper must be dismantled or protected against unwanted shifting by appropriate means while moving or transporting the unit.

While running the scanner with a Dual Input Hopper the lateral movement range may not be blocked. Non-observance can result in crush or jam injuries.



During the lateral movement of the Dual Input Hopper in case of a reference move or an Input Tray switching, its center bridge moving along the housing edges. The distance between the center bridge and the edges is big enough to prevent jams. Nevertheless, a small risk remains at this point.

### 1.2.1.4. Input tray



Inside the Input Tray of the Paper Input laterally slotted holes are existing where the plate of the Input Tray is guided. The slight width of the slotted holes prevent jams. Nevertheless, a small risk remains at this point.

## 1.2.2. Marked Danger Spots

Areas with increased risk potential are identified with the following warning icons directly bonded to the unit.

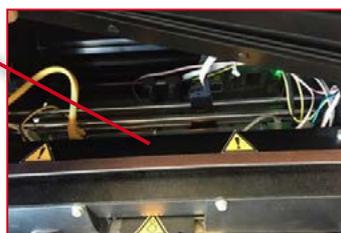
### 1.2.2.1. General Danger Spot



This warning icon indicates a general or not specified danger spot which can contain different possible causes of risk.



In the present case the warning icons are placed behind the Gaiters of the present Output Hoppers and should indicate that the scanner may not be driven with an open Gaiter, as rotating parts or crushing zones are unprotected and result in a higher risk of injuries.



### 1.2.2.2. Danger Spot Seize/Entangle



The beside warning icon indicates to the risk of seize or entangle, which is caused by the fast rotating Input Rollers or Paper Transport Rollers in case of this scanners. Beside the risk to grab with the fingers into the rotating rollers, it is offering a higher risk to entangle long hairs or similar parts in it.

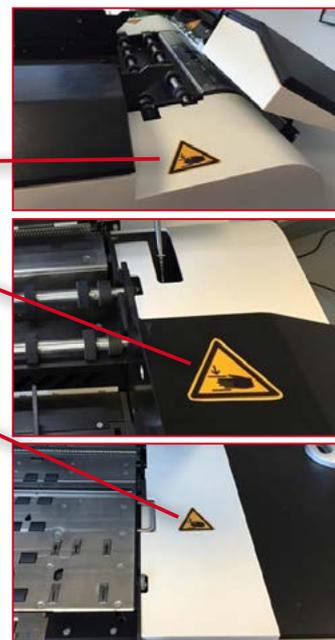
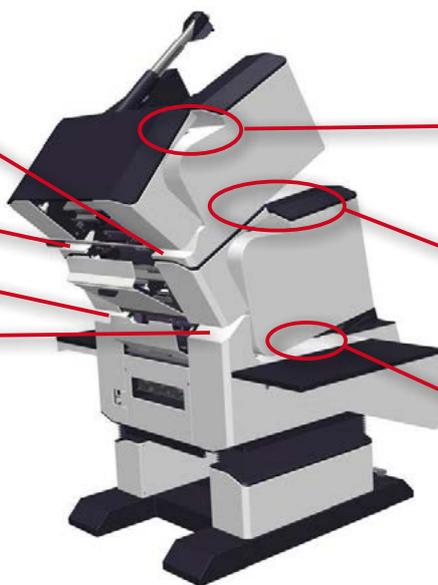
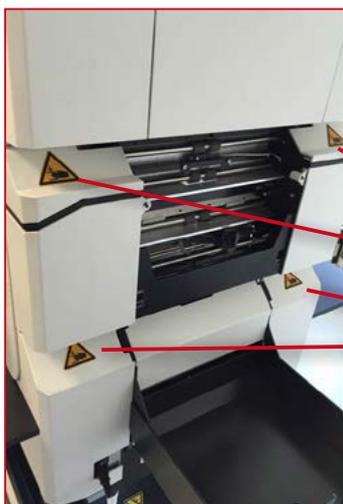


As the Transport Area is inside the scanner and the unit can't be driven in an open condition or with missing covers, only the Paper Input, means the Feeder Roller Assembly, and the front Transport Rollers of the Paper Output in the Output Hoppers are pointed as danger spots. While the Paper Transport is running, it is not allowed to grab into the moving areas and long parts (*hairs, chains, ties, etc.*) which can entangle into the rollers must kept away from it.

### 1.2.2.3. Danger Spot Crush/Jam 1



This warning icon indicates to the possible risk of crush or jam body parts while open or close the different scanner parts (*see chapter 6.*). While opening the scanner parts, the danger spots are located at the rear side of the scanner inside the wedge-shaped housing notches above the Rear Paper Output and between the two Output Hoppers. While closing the scanner parts, the areas between the surfaces which overlaps in closed condition are more relevant.



### 1.2.2.4. Danger Spot Crush/Jam 2



This warning icon indicates to the possible risk of crush or jam body parts if the Rack Gaiters has been released. In this case metal braces between the Lifting Columns are exposed, which are normally covered by this Gaiters. While lower the scanner by its Height Adjustment there will exist a higher risk of crush or shear off body parts.



### 1.2.2.5. Danger Spot Crush/Jam 3



Also this warning icon is related to the Height Adjustment of the scanner and indicates to the possible risk of crush or jam the body while lower the scanner. Because of the heavy weight of the unit it's not allowed to lower the scanner while anybody is underneath the unit.



### 1.2.2.6. Danger Spot Electrical Voltage



The beside warning icon indicates to an area of electrical voltage. In the actual case it points to the housing of the Power Supply which is normally covered by the right hand Rack Gaiter. This housing may **only** be opened by a trained technician while the scanner is not connected to a power cord.



## 2. General description

The SCAMAX® H12 type scanners are designed for daily document processing in large volumes. They are among the most powerful and flexible high volume scanners that are offered on the market.

The integrated motorized height adjustment moves the console machine to the desired working height of the user if necessary, and thus allows an optimized workplace ergonomics.

An internal proprietary scan client guarantees autonomous scanning using all available equipment functions at maximum speed. The resulting images are exported outside together with associated metadata in a defined manner. The available drivers allow easy integration into any existing scanning, workflow and archiving system.

The scanning is done one or double sided, with a selectable scan between 75 and 600 dpi.

The models are equipped with a Gigabit Ethernet port to export the scan data of the internal scan client and a USB 3.0 SuperSpeed port to control the scanner using Twain™ driver or ISIS-compatible MS61 driver.

The scanners have a Single Input Hopper with a capacity up to 1,000 sheets, making it possible to scan documents in batch mode. Optionally, the device can also be equipped with a Dual Input Hopper. This doubles the feeder capacity and enables continuous processing.

The integrated and controllable ultrasonic sensors reliably detect unintended double feeding, even with changing sheet thickness, and can react differently to it.

All settings for paper handling are made on the scanner. The documents are processed in unchanged sequence and generally also output in the same manner. The existing "Straight" Through Paper Pass with rear ejection and the possibility of extension with a second Output Hopper, paper output can also be controlled based on project. Sorting out of individual control sheets is also possible.

The sensors in the paper transport path, in the case of a paper jam, ensures that the transport is stopped in fractions of a second. Damage to the documents can be largely avoided.

By the capacitive touch screen, the configuration and operation of the scanner has become even easier. With today's conventional controls, projects and profiles can be easily set up. Unique icons, full text aids and full text error messages guarantee a safe and logical operation of the scanner.

The scanners are factory equipped with two imprinters. These print a line of text either on the front or back of documents, with freely selectable information such as date, time, project name and a serial number.

## 2.1. SCAMAX® upgrade concept 801/811/821

The H12 scanner type supports the flexible upgrade system developed by InoTec GmbH. Through this the document scanner can be optimally adapted to changing production volumes by upgrading the scanning speed.

By specifying time limits, also providing temporary upgrades to carry out tests or to intercept occurring performance peaks is possible.

The middle number in the model name stands for the enabled speed level. The model **801** thus constitutes the basic model with a throughput of up to **160 pages per minute (ppm)**, while the model **811**, the average speed maximum **220 ppm** and the model **821** provides the highest speed of maximum **300 ppm**.

All speed information relating to the scanning of A4 documents in landscape mode with a resolution of 200 or 300 dpi.

Additional models and special editions with a different configuration are possible.

## 2.2. Extensions/options

Similar to the speed, the H12 scanner type can optionally be extended in other areas. The previously known or planned extensions are listed below.

### 2.2.1. Dual Input Hopper

In order to enable continuous processing and thereby increase the efficiency of the scanning workstation, a Dual Input Hopper (*see chapter 2.3.1.2.*) can be used instead of a Single Input Hopper. This has two adjacent Input Trays with a capacity of 1,000 sheets each, which are alternately executed. In order for the scan operator to have the option to fill the empty Input Tray with documents, without having to interrupt the scanning process. The project-based configuration ability and the use of these Dual Input Hopper is described in chapter [5.4.4.](#)

### 2.2.2. HighSpeed Stacker Arm

Since paper develops its own momentum during transport at high speed, a special stacking arm was developed for handling the Highspeed Output Mode, which not only specifically intercepts ejected sheets, but also controls the lowering of the output tray and registers jams during the output to ensure an optimized and as trouble-free as possible paper output. Since it features integral speed management, the same HighSpeed Stacker Arm can be used with all three scanner models.

### 2.2.3. 2nd Output Hopper

To reflect on the benefits of the aforementioned Dual Input Hopper also in the output area, the H12 type can be equipped with a 2nd Output Hopper (*see chapter 2.3.1.2.*). The project-based configuration possibility and the use of this second shelf is described in the chapters [4.6.3.3.1.](#) and [5.7.5.](#)

### 2.2.4. Imprinter HD

The two imprinters supplied in standard configurations (*Kapitel 2.3.4.*) may be replaced with an optional HD variant. Apart from offering three different print quality settings, HD imprinters are capable of printing up to four lines simultaneously, in varying font sizes. Also, they can produce bar codes based on three different bar code types. For more information, please refer to chapter [8.](#)

### 2.2.5. Straight Through Paper Path Elevation

Should scan material be processed, by which the thickness significantly exceeds the bounds of a document, for example, closed envelopes with multiple inlaid sheets, the possibility exists with this option to gradual increase the straight-through paper path by more than 100%. For more information, please refer to chapter [5.7.6.1.](#)

### 2.2.6. Extension kits for over-sized documents

If you need to process documents longer than A3, extension kits are available for the input hopper(s) (see [chapter 5.4.2.](#)) and for the front output hopper(s) (see [chapter 5.7.1.](#)). The rear output hopper can be replaced with an optional, sloping version (see [chapter 5.7.6.](#)), which is variable in size and capable of accepting documents of up to 62 cm in length

## 2.3. Device Views



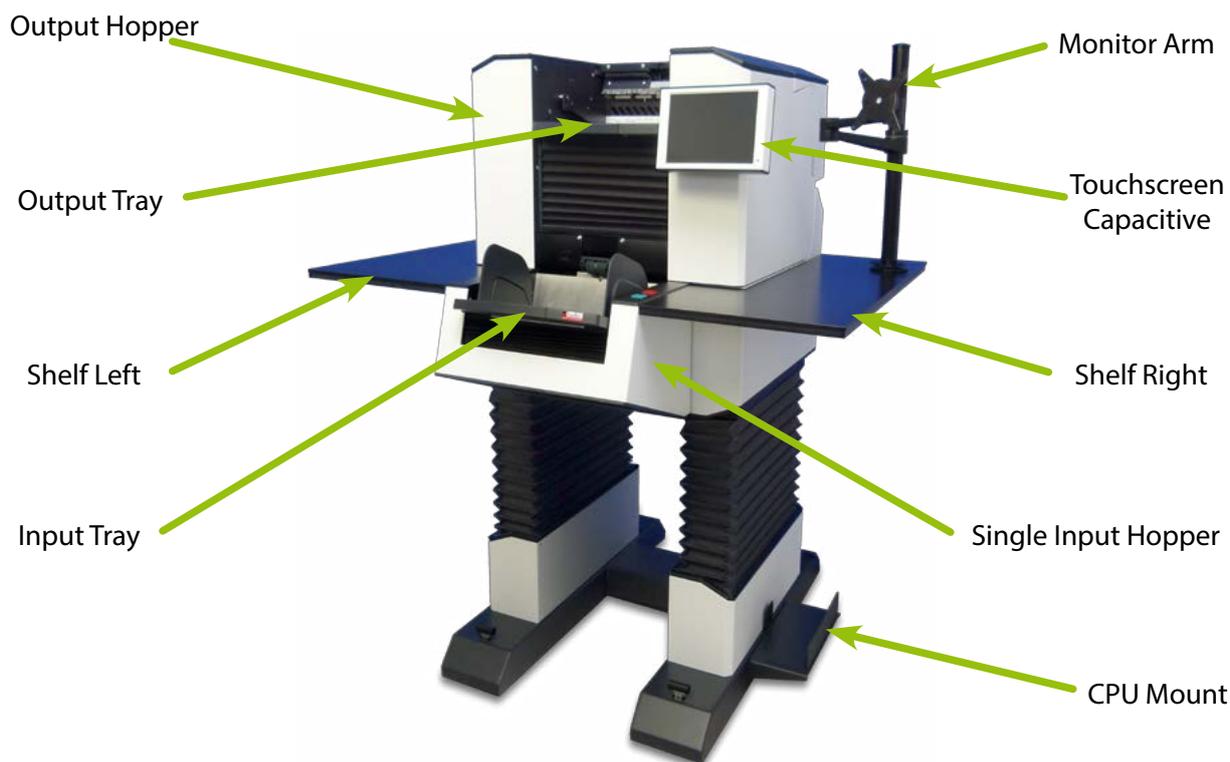
As illustrated in the figure on the left, the devices of the H12 type consist schematically of a Scanner Upper Section (*red area*) and a Scanner Lower Section (*green area*).

The location of the main components and function groups and their names are shown in the figures in the following chapters.

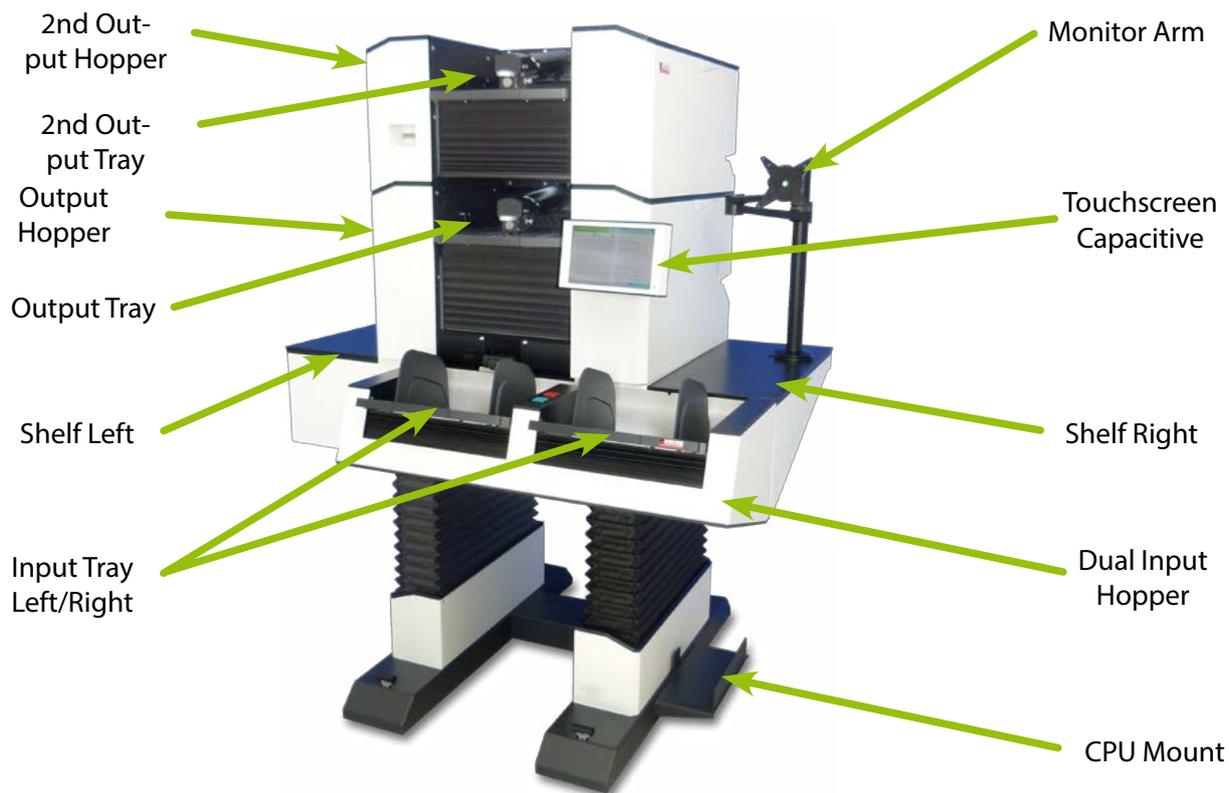
### 2.3.1. Front Views

As the devices of the H12 type can be extended by adding options, we show below the front view of the smallest as well as the full expansion stage.

#### 2.3.1.1. Basic Model

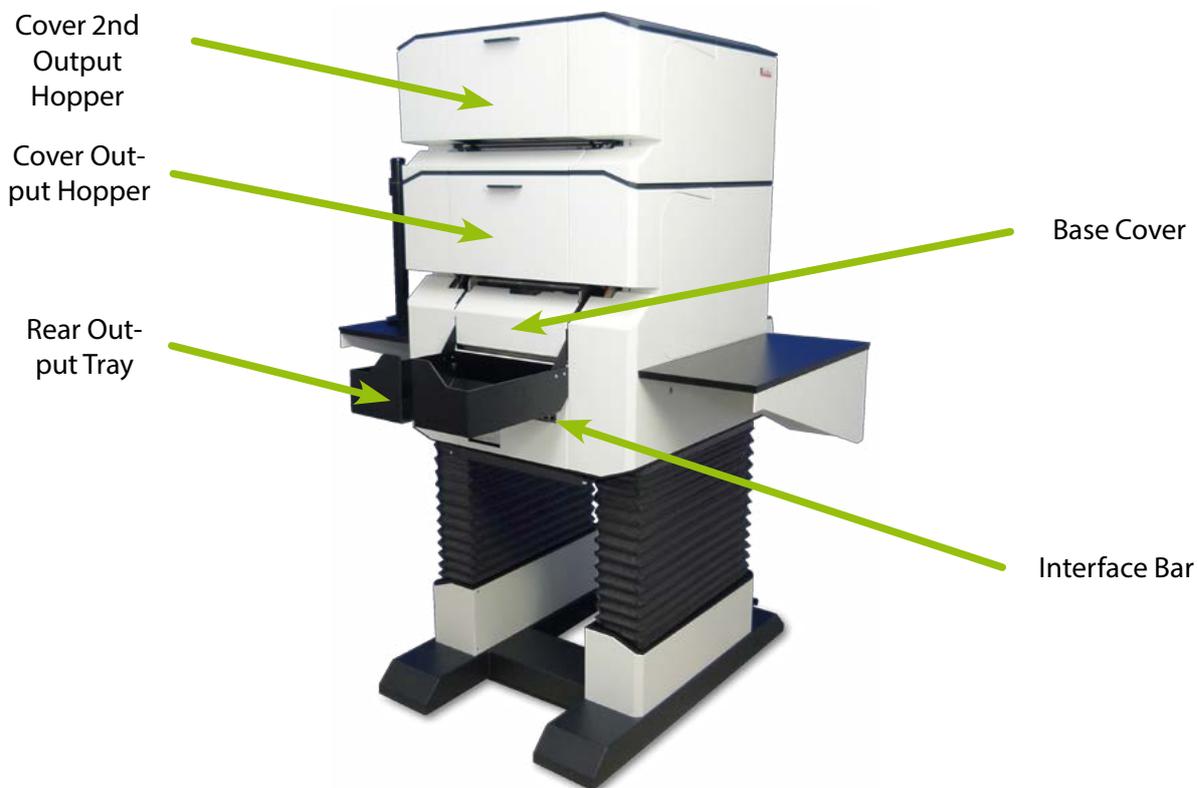


### 2.3.1.2. Expansion Stage (Dual Input Hopper / 2nd Output Hopper)



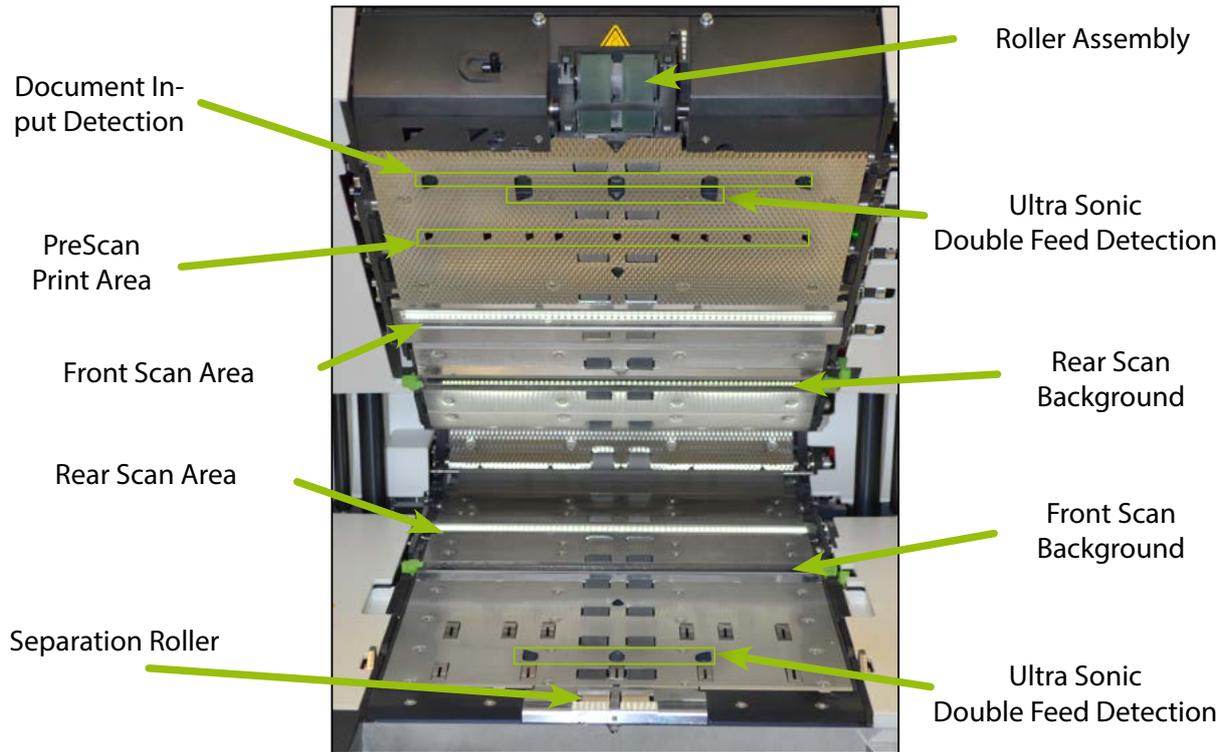
### 2.3.2. Rear View

Subsequently, the rear view of a model of the Full Expansion Stage.



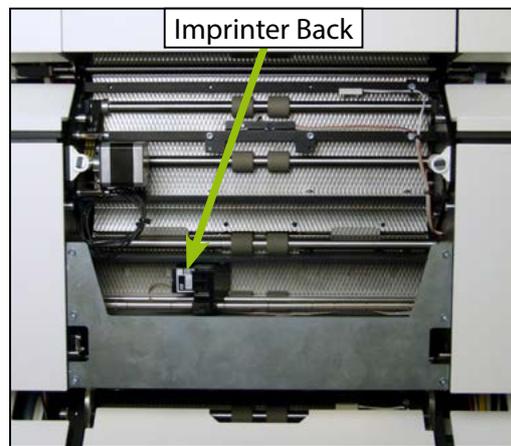
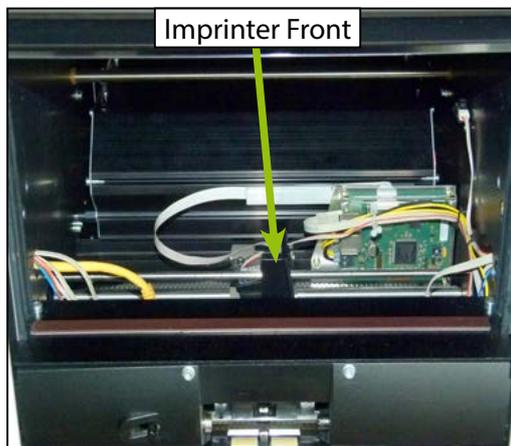
### 2.3.3. Interior Scan Plane

Below the image of the opened scanner with view of the Scan Plane.



### 2.3.4. View Imprinter

The images that follow clarify the positions of the two standard imprinters available



### 3. Startup Operation

SCAMAX® H12 type scanners are ergonomic console models that have been adapted in their design to meet the needs of the operator.

The low noise emission allows use in any normal office environment

#### 3.1. Scope of Delivery

The devices of this type are delivered in specially made wooden crates. If desired, the packaging will be taken back by InoTec GmbH after erecting the device. Transport without a corresponding transport box is not recommended, as this may cause damage to the device.

The exact scope of delivery is based on the ordered configuration of the scanner, but in addition to the actual device it always contains the following accessories:

- Monitor Arm
- CPU Mount
- Power Cord
- USB Memory Stick
- Accessory Set H12 (Order No. t 8xxz610) consisting of:
  - Input Roller Assembly V2 .....e 008 3015
  - Friction Lining Green (4 pcs.) .....e 007 3050
  - Friction Lining Green with Ruffles (2 pcs.) .....e 007 3053
  - Friction Lining Red (2 pcs.) .....e 007 3055
  - Friction Lining Red with Ruffles (2 pcs.) .....e 007 3057
  - Friction Lining White for Separation Roller (2 pcs.) .....e 007 3150
  - SCAMAX® Cleaning Solution for Optics 250ml .....e 901 0010
  - SCAMAX® SV1A Cleaning Solution for Rubber+Belts 250ml .....e 901 0025
  - Wipers White (8 pcs.) .....e 901 0001
  - Protective Gloves Size L (10 pcs.) .....e 901 0083
  - Protective Gloves Size XL (10 pcs.) .....e 901 0085
  - Dust Brush .....e 901 0100
  - Swiffer® Dusters™ Cleaner Kit .....e 901 0034
  - Tweezers 140 .....e 901 0050
  - White Calibration Paper (10 Sheets) ..... s 910 0002
  - Ink Cartridge C6602A black (3 pcs.) ..... s 900 0170
  - Paper Guide Spring (10 pcs.) .....e 122 1310

If your scanner has been fitted with optional Imprinters HD (*see chapter 2.2.4.*), the unit will be shipped with *Accessory Set H12 HD* (Order No. t 8xxz620) instead of *Accessory Set H12* (as listed above). The difference between these sets is in the ink cartridges supplied. In *Accessory Set H12 HD*, item no. s 900 0170 from *Accessory Set H12* has been replaced by the following two items:

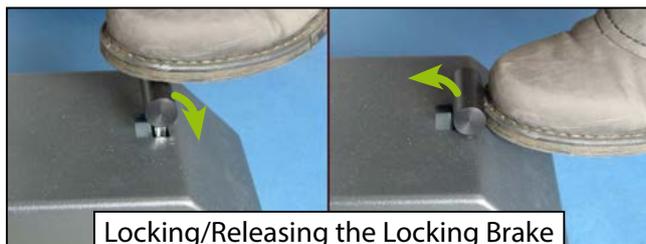
- Ink Cartridge HD HP337 black (3 pcs.) ..... s 900 0190
- Cap for Ink Cartridge HD (2 pcs.) .....e 129 4100

### 3.2. Setting Up the Device

Since the device was partially dismantled for shipment, the unpacking and setting up of the scanner is carried out **exclusively** by an **authorized expert** for this.

As work place a location shall be selected, at which the scanner is not exposed to direct sunlight, chemicals or vibration. The room temperature should not be below 10°C and not above 35°C. The relative humidity without condensation should be between 30% and 80%. The scanner should not be subjected to abrupt temperature or humidity changes.

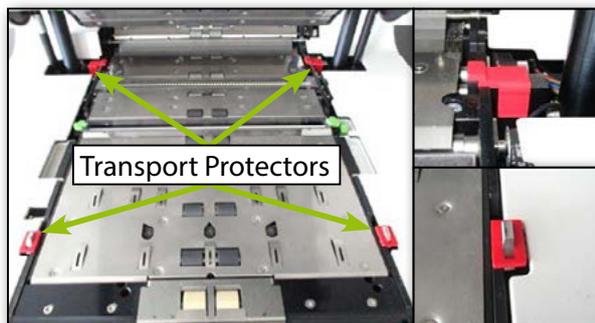
Make sure that the scanner is on a flat, stable surface that is designed or has been prepared for the weight of the device (*up to 240 kg*) and that behind the device there remains enough space for the connection and opening of the unit.



To secure the device against unintentional displacement, the two Locking Brakes can be locked on the front of the feet by applying a large force from the top by foot. To release press firmly from the front by foot.

### 3.3. Relocating the unit

Since an operational H12 will not fit through a standard doorway, it is usually necessary to partly dismantle it, before moving the scanner to a new location. Therefore, in most cases, relocating the unit will **require assistance** by an **authorized expert**.

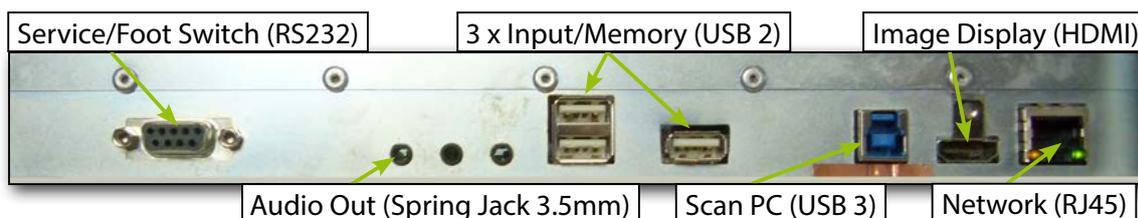


Even if the scanner can be moved to its new destination without disassembly, it will nonetheless be necessary to re-apply the transport protection it originally came with. This consists of four red plastic mouldings which need to be clipped onto the frame either side of the scan plane, as shown to the left. These transport protectors will prevent accidental misalignment of the upper housing, when moving the unit over rough or uneven surfaces.

Before actually moving the scanner, it is also necessary to set it to its lowest working height (*see chapter 5.2.*). When pushing the unit along, please make sure to only apply force to the lower housing of the scanner. Any lateral forces applied to the top housing may cause misalignment.

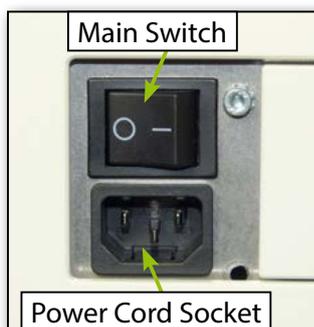
### 3.4. Connecting the Device

On the rear panel an Interface Bar with the following appearance is located next to the power connector, below the Rear Output Tray (*see chapter 2.3.2.*):



The following paragraphs discuss the existing external and internal connections of the device

### 3.4.1. Power Supply / Main Switch



The Power Supply unit on the rear panel consists of power connector and Main Switch.

For connect, the device should be turned off, i.e. the Main Switch set to "0" and the supplied power cable connected to the earthed mains socket.

Via the Main Switch, the power supply is released to the scanner with "I". The scanner is then in the energy saving mode.

Before turning off the Main Switch, make sure that any connected PC is not in an active scan or driver dialog, as this may cause system errors that require a restart of the PC

#### **CAUTION**

*It is essential to make sure that the used socket has a functioning protective conductor.*

### 3.4.2. USB3 Port for Scan Jobs

To connect the scanner to an external scan station, a device socket type USB 3.0 with a data rate of up to 4000 Mbit/s is available on the Interface Bar (Fig. chapter 3.4.). This has to be connected via the supplied the USB3 device cable with the USB3 interface of the Scan PCs.

As usual with USB devices on Windows operating systems, **before** you connect the scanner to your scanning PC for the first time, a matching USB device driver must be available there. Driver installation will be covered in detail, in chapter 3.6..

### 3.4.3. USB Ports for Input Devices or Data Storage

For connecting commercial input devices (mouse / keyboard) or data storage (USB Stick / Flash Disk) a total of three USB2 inputs are available on the Interface Bar (Fig. chapter 3.4.).

As input devices are used only for internal changes to the central system unit of the scanner, it is not examined further in this manual.

### 3.4.4. Network Connection for Batch Transfer

If the internal scan client should be used, the export of scanned data can be made directly to a data server on the network. For this the unit is connected to the network via the existing RJ45 jack (Fig. chapter 3.4.). This interface is a gigabit interface at a speed of up to 1000 Mbit/s. In order to ensure a trouble-free connection, for the connection only high-quality, shielded Ethernet cable of category 5e or higher should be used.

Since the network interface is currently not supported, its configuration settings are not yet available.

### 3.4.5. Connecting the External Image Display (optional)

If the internal scan client is used, a separate monitor must be used to display the scanned documents. This is directly connected to the existing HDMI connection (Fig. chapter 3.4.). The mains adapter or the power cord of the monitor must be connected to a standard electrical socket outlet.

Unlike the Monitor Arm, the monitor itself is not in the standard package. Since the supplied

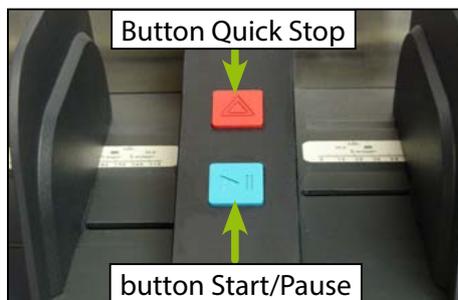


Monitor Arm includes a mounting plate according to the Vesa MIS-D standard, the flat screen to be used must be equipped for a Vesa holder 75/100.

The professional installation of the monitor on the Monitor Arm can be derived from the accompanying installation instructions.

Of course this Monitor Arm can also be used to install the flat screen of an external scan station

### 3.5. Switching the Device On and Off / Initialization After Start



If the power supply to the scanner was enabled via the Main Switch (see chapter 3.4.1.), the device can be transformed from the energy saving mode to the active mode by pressing the green button **Start / Pause** ▶||, which is centrally located on the Dual Input Hopper or on the right on the Single Input Hopper.

During start up of the scanner, various modules are initialized. Here, the existing Input and Output Hoppers are moved to their reference points. The scanner display changes to the actual scan screen (see chapter 4.3.) after passing the initialization

notifications. In the status area of the display in the top left, various initialization messages are displayed in yellow, and a green field when the scanner is ready.

#### **WARNING**

*Since the existing Input and Output Hoppers are abruptly moved to their reference points, it is important that no body parts are on their area of motion during the initialization of the scanner. Especially when using a Dual Input Hopper the lateral movement area must always be kept free. Failure to do so may result in clamping or impact injuries.*

To return the scanner to the energy saving mode, the button **Quick Stop** ▲ must be pressed for at least 3 seconds. If the scanner is not used for a definable period of time (see chapter 4.7.5.2.), it automatically goes into energy saving mode.

### 3.6. Installation of Drivers

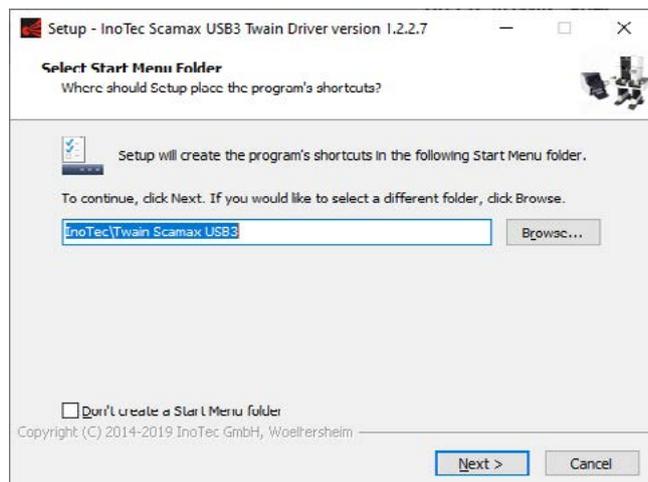
When operating the scanner with external scan-software, it is necessary to install a Windows device-driver and a driver for communication with the scan-software, beforehand. Driver installation will be covered in the following chapters.

#### 3.6.1. USB Device Driver

Since the scanner is connected to the scan-PC via a USB 3.0 interface (*see chapter 3.4.2.*), a device driver needs to be installed. This needs to be compatible with the Windows operating system version of the target PC. A separate installation of the USB3 device driver on the scan PC is not necessary under normal circumstances. This is transferred automatically when you install the Twain™ driver and adopted by the Windows operating system during the first connection of the scanner with the scan PC.

#### 3.6.2. TWAIN™ Driver

This driver is required for use with any scan software depending on the TWAIN™ communication protocol. Besides the actual TWAIN™ driver, the installer package also contains the USB3 device driver required for interfacing to the scanner. The installer file is labelled *TwainSetupScamaxUSB3.exe* and may be found on the USB flash drive shipped with the scanner. Alternatively, the installer may be downloaded from the *InoTec* website.



Upon launching the installer, you will be asked for your choice of installation language. Select English, you will then be presented with the dialog shown to the left. Here, you may either change the default start menu folder or remove the start menu entry, entirely. Confirm by clicking **Next** >. The following screen will show you an installation summary and an option to proceed by clicking **Install**. If you do, all required TWAIN™ driver files and related Windows components will be automatically installed. If a more recent version of the TWAIN driver is found on the target PC, you will be given the option to keep any of the existing (and newer) driver files.



Once all TWAIN components have been installed, an installation wizard for the USB3 device driver will be launched. If a suitable device driver already exists, you will be given the option to skip this section. If you choose to proceed, you should eventually see the confirmation screen to the left, stating that the USB3 device driver has been successfully installed and is now **ready for use**.

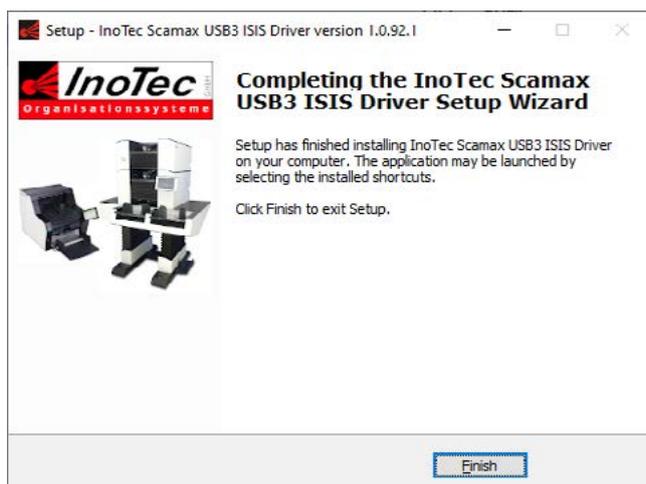


You will finally be returned to the last screen of the TWAIN installer, shown to the left. This states that all required components have been installed and that you may now conclude setup by clicking **Finish**.

In certain system environments, it might be necessary to run a modified installation procedure, e.g. if you wish to perform a silent installation. This may be achieved by the use of command-line parameters. Launching the installer followed by `/?` will return a listing of all available parameters

### 3.6.3. ISIS-compatible Driver (MS61)

Another, special driver for all scan software depending on the ISIS communication protocol is also supplied. The installer file is labelled **ISISSetupScamaxUSB3.exe** and may also be found on the USB flash drive shipped with the scanner. Alternatively, the installer may be downloaded from the **InoTec** website.



The installation procedure and screens are largely identical to those of the TWAIN™ driver, with the exception that no USB3 device driver is included. Again, successful installation of the ISIS driver will result in a final confirmation screen, as shown to the left, which you may exit by clicking **Finish**.

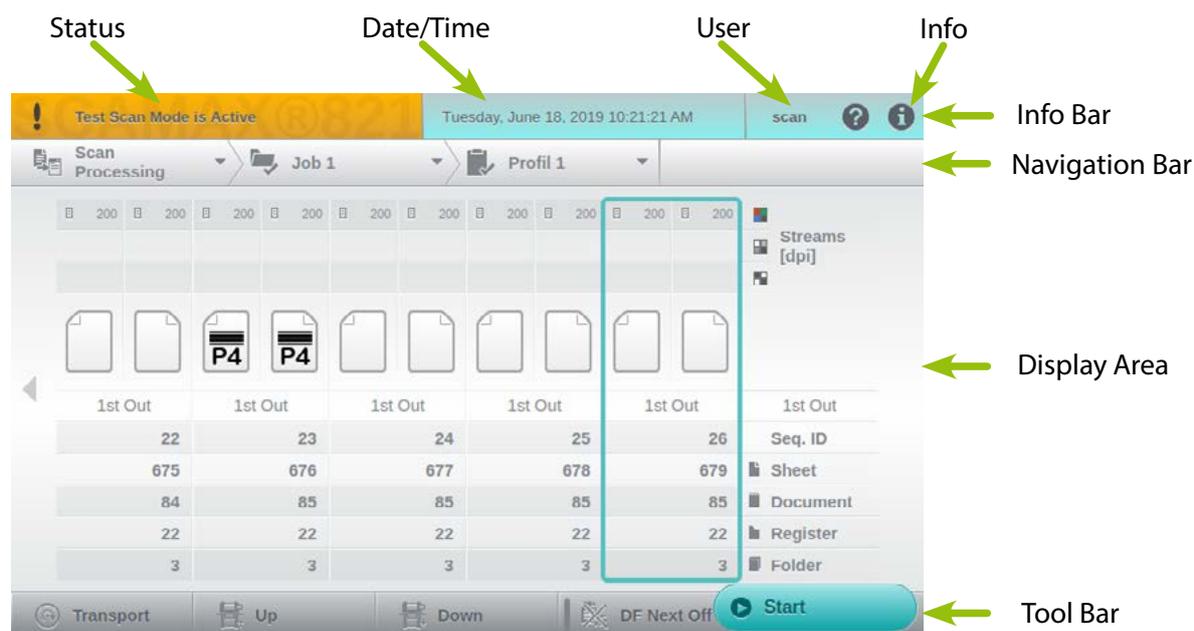
This installer, too, can be forced to special installation modes by the use of command-line parameters. Launching the installer followed by `/?` will return a listing of all available parameters.

## 4. Capacitive Touchscreen

The touchscreen is the central control element of the scanner. All necessary settings for the operation of the device and adjustments can be made with it. During the scanning operation, all essential information for the scanned documents and meaningful messages in case of failure with graphic details and help text for fault elimination (see [chapter 9](#).) appear in real time.

### 4.1. Division of the Display Surface

In the following, the division of display area is displayed using the Scan screen as example. This division is used throughout all areas of the internal scanner software. The individual areas of the display are explained in more detail in the following subchapters.



#### 4.1.1. Status



The status clarifies already through its coloring, whether the scanner is active in operational condition (*green*) or a warning (*yellow*) or error (*red*). In addition, a unique icon and the current status or the warning or error message is displayed. In the case of warnings, even more can be displayed alternately. By tapping the colored

area in the warning or error care, the corresponding message window opens in the display area. In the background of the status, the current scanner model is displayed as a watermark

#### 4.1.2. User

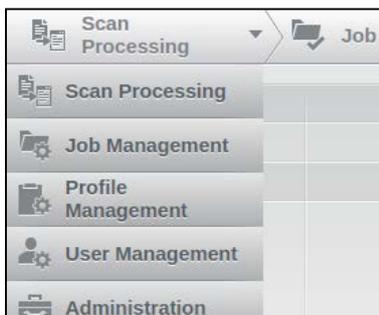
In this area the currently logged in user is displayed. After powering up the scanner, the default user **scan** will be active. This user is perfectly adequate for controlling the scanner through external software. To switch to a different user, please tap the current username. A keypad will appear (see [chapter 4.2](#).) which you should use to enter the username and, if applicable, the corresponding user password. If your entries were correct, a confirmation message will be shown and the username will be updated, in the info bar.

### 4.1.3. Info



The round icon with the **i** in the center, opens upon tapping a window with information about the used scanner hardware, the firmware versions used, and other important details.

### 4.1.4. Navigation Bar



The navigation bar always shows the point in the menu structure where you are currently, via the breadcrumbs technology. Tapping the individual segments opens the respective level as drop-down menu and offers the ability to quickly jump to a desired item within the software. Moving within the structure is possible from level 2 also through control elements that are offered within the display area. But this only happens sequentially, i.e. within the masks of a menu level or via keys control one level forward or backward. Only using the navigation bar does one, for example, from a mask of the menu Level 4, directly reach the drop-down menu Level 1.

### 4.1.5. Display Area

This area is used to display the Scan screen, during Scan Processing, and the graphical configuration elements of various setting menus. The various controls that are available within the program elements are explained in detail in the corresponding chapters. When displaying a warning or an error message window, this area is completely covered, while the areas above and below remain visible for orientation and control.

### 4.1.6. Tool Bar

The lower area of the touchscreen is reserved for displaying control keys. This may vary depending on the active program item, but they are partially configurable. Various possibilities are described in the following chapters.

## 4.2. Operation Methods

The touchscreen on the H12 not only responds to tapping, as one would expect, but will also accept swiping gestures.

For operation, only the finger or a specially designated operator pen should be used. Other objects, e.g. ballpoint pen may scratch the surface of the touchscreen.



If one of these marks is displayed at the margin of the display area, by tapping on the marks or by laterally wiping over the display area, you switch to the last or next mask of the same menu level. If a mask or list is longer than the display area, the view can be moved by wiping upwards and downwards.

To operate the software, besides unique keys, especially in the configuration menu, the following special controls are available:



Fields that show a triangle with tip pointing downwards on the right side, open a drop-down list upon tapping (see *Navigation Bar - chapter 4.1.4.*)



If a field has these three points on the right side, a submenu is called upon tapping, which contains more related configuration objects.



If a menu bar has this mark box on the left side, the respective function can be activated by tapping so.



Unlike in this round field, which is also displayed to the left of the menu bar. This is a option field, which is used to select the desired option from a group of possibilities. There are at least two option fields in the same group, whereby only one option field in the group can be selected.



A field with the adjacently shown appearance offers three different control options. While tapping the plus or minus key, change the associated value by 1, a tap in the green

or gray value range, reduces or increases them by 10. Tapping and lateral displacement of the slider allows a dynamic change of the value.

### 4.2.1. Input Fields



Upon tapping, such input fields, depending on the assigned function, open either an alphanumeric keypad or a numerical field (see below), in individual cases even a path or file selection mask.

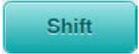


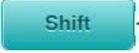
Unlike the numerical pad, the keypad contains in addition to the actual character keys and the input field, in some cases a range to choose from the available variables and attributes in order to integrate them in the input box. Whenever this is the case, we will add a note to this effect, in the respective chapter.

Numerical values may accompanied by a display of *[mm]*, as the unit of length. You can change this unit to *[inch]* (and back again), simply by tapping the currently displayed unit. This change will affect the entire user interface and all values of this type will be converted accordingly.

Several keyboard shortcuts are available for assisting with text input.

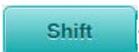
 The function keys used for these shortcuts will change their appearance, each time they are pressed. In the example to the left, we have shown the same key in its default state, after one and after two subsequent taps. A single tap will effectively “arm” the function key for one-time use as a keyboard shortcut. As soon as an additional key or keys have been pressed, the function key will revert to its default state. A double tap, on the other hand, will permanently toggle the function key, it may now be repeatedly used with any amount of additional keys, without having to press it again. A final, single tap will return the function key to its default state.

 As is the case with regular PC-keyboards, this key will switch character entry to capitals. Also, it will reveal any special characters available through the touch-keyboard.

 +   These key combinations will extend or shorten text highlighting.

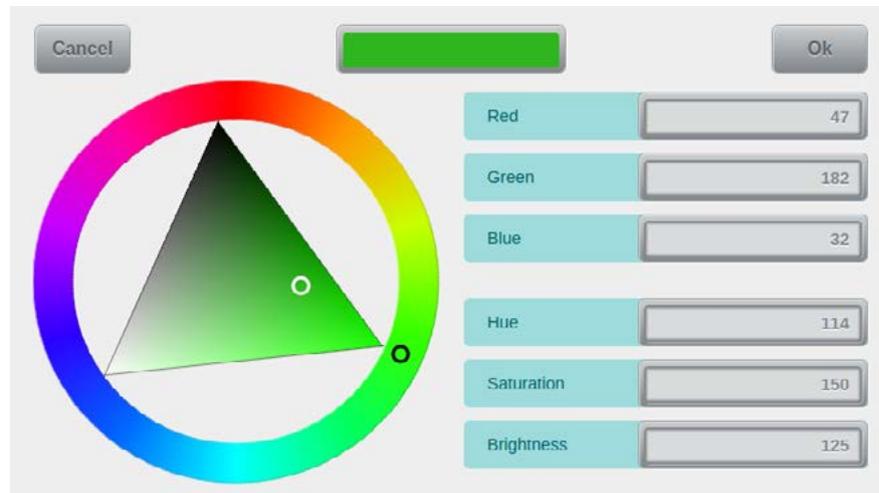
 +   After pressing **Ctrl**, these cursor keys will additionally display a **w**, as an indication that they will now operate on a per-word basis. Pressing **Sys** will transform these cursor keys into **Home** and **End** keys, which will move the cursor to the beginning or the end of the current text.

 The uppermost key combination shown to the left will copy highlighted text, whereas the key combination in the middle will cut (remove) highlighted text. The lowermost key combination will insert copied or cut text, at the current cursor position.

 + 

#### 4.2.2. Color Picker Dialog

Several functions from profile management (see chapter 4.6.ff) will require you to select a certain color. This is accomplished through the color picker dialog explained below.



Besides a color picker wheel (*far left*) and an area showing the currently selected color (*at the top*), the color picker dialog features two sets of three numerical fields. The top set of fields is used for displaying or accepting RGB color values, whereas the bottom set will output corresponding values from the HSV color model.

Color selection may be performed by entering known RGB values into the input fields for **red**, **green** and **blue**. In reaction to your input, the color picker wheel and the color display area will adjust to the desired color. Also, the HSV output fields for **hue**, **saturation** and **value** will be updated accordingly

EA color may also be selected by operating the color selection wheel. Choose the desired color (hue) from the outer color ring, then modify saturation and brightness, using the inner triangle. When done, the color display area and the RGB and HSV numerical fields are updated accordingly.

Since the HSV color model is device dependent, it is not easy to determine valid combinations of HSV values. For this reason, all HSV numerical fields are output only.

### 4.2.3. Event List

No Event
Patch T
Patch 2
Patch 3
Patch 1
Patch 4
Patch 6
Any Patch
No Patch
Every Scanned Sheet
Every Transferred Sheet
Counter 1 triggered
Counter 2 triggered
Counter 3 triggered
Counter 4 triggered
Barcode triggered
Any Barcode
Double Feed
Switch Input Tray
Left Input Tray
Right Input Tray
Shorter Than
Longer Than

Many scan-profiles use scan-time events to control or trigger functions. This is particularly true in the case of **Stream Control** (see chapter 4.6.2.5.4.) or the control of paper **Output** (see chapter 4.6.3.3.). Scan-time events are also used for the extended activation of more complex functions such as **Double Feed Detection** (see chapter 4.6.4.1.) or **Annotations** (see chapter 4.6.6.). Furthermore, the control of internal Counters (see chapter 4.6.5.1.) and individual functions such as **Delete Image(s)** at (see chapter 4.6.2.4.) or **Scan Pause at** (see chapter 4.6.4.2.6.) all rely on scan-time events.

The following scan-time events are available:

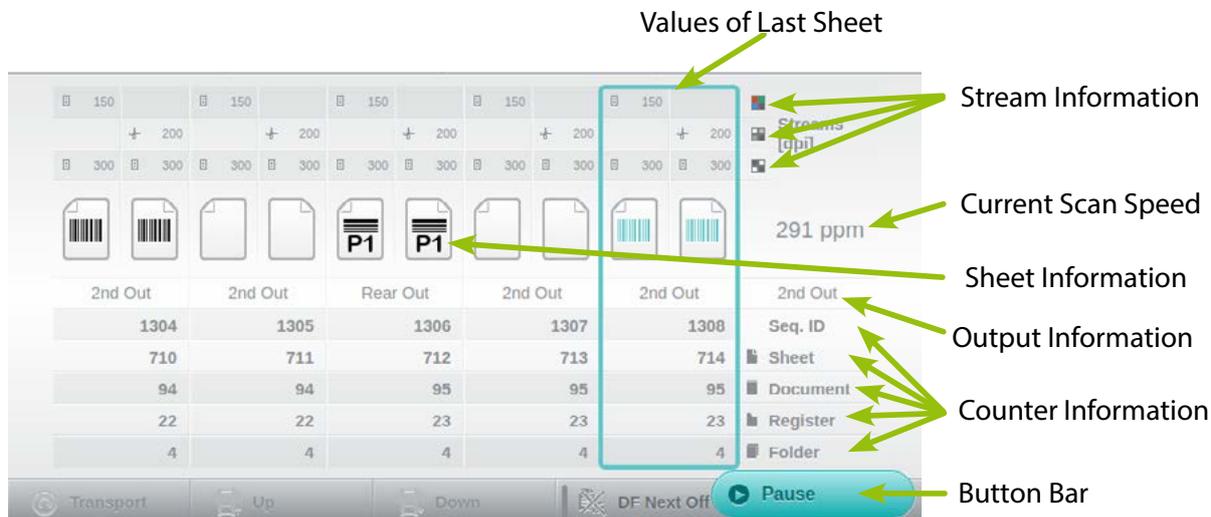
- Detection of one particular patch code type or detection of any patch code, alternatively the absence of any patch codes.
- Every sheet scanned or, as a subset thereof, every sheet transferred.
- Reaching the trigger value of one of the four counters.
- Every barcode found or, as a subset thereof, every barcode with the right trigger value.
- Double feed detection.
- Switching from one input tray to the other or, when using the dual input hopper, activation of one of the hopper trays.
- Detection of documents shorter or longer than a pre-defined length

In combination with certain functions, some elements from the event list will be missing. Such elements are intentionally hidden whenever a function is executed before the desired event can occur, as would be the case e.g. with stop scanning and counter triggered. However, the fact that an event IS listed does not imply that its use necessarily makes sense. For example, combining **Scan Pause at** with **Every Scanned Sheet** is technically possible, but it is also – in practical terms – rather pointless.

### 4.3. Scan Processing

Immediately after turning on the scanner or by selecting the item **Scan Processing** in the navigation bar leads to the Scan screen. This view is always displayed during active scanning.

#### 4.3.1. Division of Scan Screen



The view of the scan screen in the display area of the touchscreen is divided into rows and columns. Per scanned sheet, one column is filled with information. These values shift column by column to the left during the scanning process, so that the values of the last scanned sheet are in the right, turquoise framed column. The current scan speed is shown in pages per minute on the right edge, at the level of the sheet information line, during a scanning process. When scanning is paused, swiping the display area to the left will make it scroll back to images scanned earlier. Tapping the rightmost column, which will reappear after a short while, will cause the display to return to the current image, in preparation of further scans.

##### 4.3.1.1. Stream Information

The top three rows of each column are used for displaying Stream Information. The images of different color depths are designated this way. The icon to the right of the line, featuring the particular color depth. In the top row for 24-Bit color images, below 8-Bit gray images and the third line for 1-Bit B/W images.

The columns in these three lines are again divided, as on the left half Stream Information are displayed for the front sides and on the right half for the back sides. Besides giving the respective resolution in dpi, it is marked by symbols that a complete image and/or a clipping was generated in the respective color depth. Empty fields mean that this image type isn't enabled.



If the stream information area is marked with a red cross, then all respective images have already been deleted by the scanner, either through function **Delete Image(s)** (see chapter 4.6.2.4.) or function **Delete Patch Code Sheets** (see chapter 4.6.4.3.6.).

##### 4.3.1.2. Sheet Information



The broad line below the Stream Information is used to display the sheet information. Also in this line the column is halved and the icons shown here represent the scanned front and back side.

 If a patch code is detected on a sheet while Patch Code Detection (see [chapter 4.6.4.3.](#)) is enabled, both related document icons are provided with the symbol (*left*) and the indication of the detected patch codes (PT, P2, P3, P1, P4, P6).

 If barcode detection (see [chapter 4.6.4.4.](#)) has been activated, in the current scan profile, image icons will be marked with a black barcode symbol whenever a barcode is found. If the barcode value is used for *triggering*, image icons will be marked with a turquoise barcode symbol.

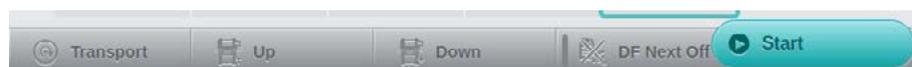
#### 4.3.1.3. Output Information

Just below the screen area for sheet information, there is a line with output information. For each sheet, this line will list the output tray selected, at the time of processing. This will let you determine the output tray each sheet has been sorted to, even later on. **1st Out** represents the lower output tray, **2nd Out** represents the upper, second output tray (*optional*), **Rear Out** identifies the rear output tray. The entry in the rightmost column shows the output tray allocated to the next sheet to be processed, provided the output route is not changed due to some pre-defined event.

#### 4.3.1.4. Counter Information

The lower 5 lines are used to indicate the available counters. The top counter is always the sequential ID, means the unchangeable, continuing scanner counter. The four lines below, include the four available counters of the system. How these counters are named or used depends on the respective configuration (see [chapter 4.6.5.1.](#)).

#### 4.3.1.5. Button Bar



Whenever the scanner is ready, and provided this feature is supported by external scan-software, a rounded turquoise scan button will appear in the bottom right corner of the active scanning window. You may use this button to start or stop scanning (see [chapter 5.8.1.](#)). This button will also appear when in Testscan mode.

The four Quick-Access Buttons at the bottom edge of the scanning window may be assigned with any of the function keys. This assignment is part of the scanning profile and is defined in the **General** Section (see [chapter 4.6.1.3.](#)).

Touching the Button Bar and then dragging it upwards will reveal all of the available function keys. This is known as the function key window. Some of the functions keys feature a vertical bar, to the

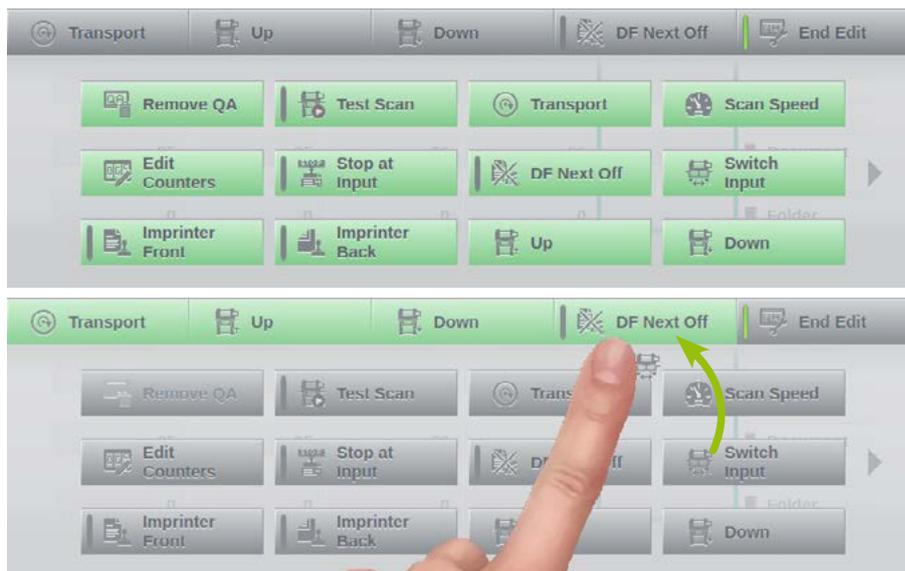


left of their icon which lights up green if the respective function is active. All functions keys and their actions are documented in a separate section in the chapter on Profile Configuration (see [chapter 4.6.1.3.](#)). During

scanning, the four Quick-Access Buttons as well as all function keys available through the Button Bar may be used directly from here, without having to switch to another menu screen.

##### 4.3.1.5.1. Modifying Quick-Access Buttons

 The assignment of Quick-Access buttons may be easily changed. After opening the function key window, press additional button **Edit QA-Buttons**, right beside the Quick-Access buttons. The labelling of this button will change to **End Edit** and a green indicator



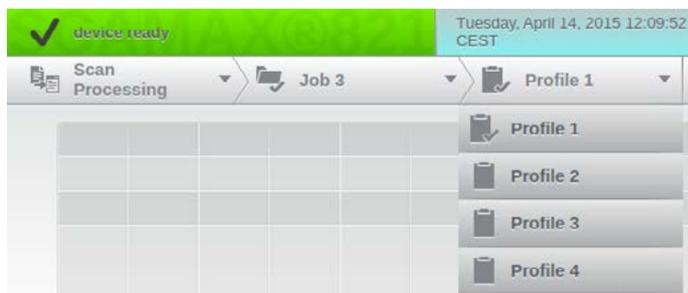
will appear. All function keys below the quick-access bar will highlighted in green and the **Remove QA** button will become active .

You may now re-assign any of the Quick-Access buttons by touching and then dragging the desired function key onto one of the four quick-access positions. As soon as you have selected one of the function keys, the green highlighting will

move to the Quick-Access buttons, identifying them as targets. When dragging a function key across, the function key's icon will be displayed next to your fingertip. Releasing a function key over one of the quick-access positions will replace and update that button's assignment, accordingly. Dragging the **Remove QA** button onto one of the quick-access positions will remove any assignment from that position, leaving it empty and without function. Tapping the **End Edit** button will end the modification mode.

Any new key assignments will remain in effect until a different scanning profile is selected or until the scanning software is stopped or restarted. If an internal Scan Profile is used, then all new key assignments will be stored in the **General** section of the current Scan Profile (see chapter 4.6.1.3.).

#### 4.3.2. Job and Profile Selection



If the internal scan client is used, a pre-defined Scan Job (see chapter 4.5.) and the desired Scan Profile (see chapter 4.6.) are to be selected in the navigation bar.

If the scanner is controlled by a scanning software on a connected PC, all the necessary settings are transmitted to the scanner via the used driver interface. In the Scan screen, the term **Remote** appears in

the navigation bar beside the item **Scan Processing** instead of the job and profile selection and the navigation bar is completely grayed out. Since external scan-software can also utilize scanner-internal profiles (see chapter 4.6.), the term **Remote** may occasionally be replaced by the name of an internal scanner profile.

#### 4.4. User Settings

Menu item **User Settings** refers to the currently logged on user (see [chapter 4.1.2.](#)) and comprises the two fields shown to the left. Tapping the **Password** field will launch a keypad (see [chapter 4.2.1.](#)), which you should use to enter a new password. Tapping the **User Language** field lets you choose from a drop-down list with all available display languages. User Language defaults to the System language (see [chapter 4.7.5.1.](#)).



The image shows two user settings fields. The top field is labeled 'Password' and contains a single asterisk character. The bottom field is labeled 'User Language' and shows 'System' as the selected option with a downward-pointing arrow on the right side.

## 4.5. Job Management *(Administrator Rights required!)*

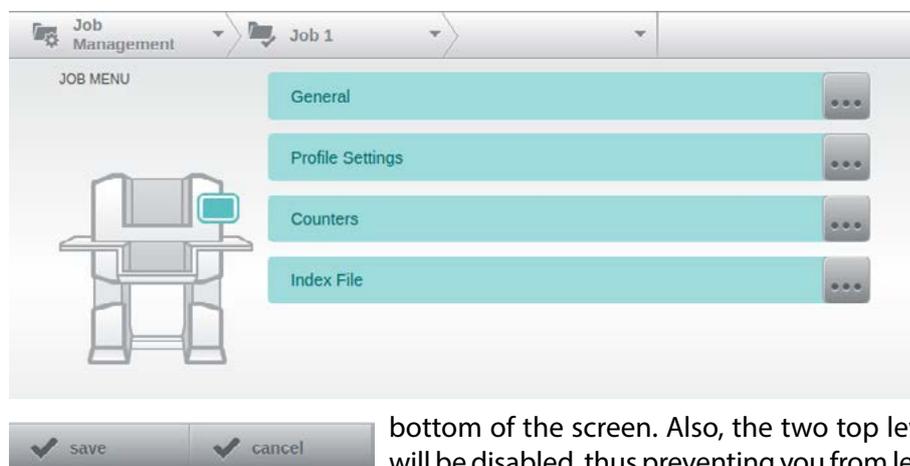


Via the **Job Management**, the used scan jobs of the internal scan client will be defined and managed.

These job definitions contain image settings such as type, format, name, storage location. They also define which scan profiles may be used with each of the job definitions.

Selecting **Job Management** from the navigation bar will display an alphabetically sorted list of all available job definitions, down and along the left side of the display area. Tapping on one of the buttons will select this job definition for editing. The button pressed will be highlighted turquoise and the right side of the display area will show an overview of this job's current settings. Alternatively, a job definition may also be selected from a drop-down list, in the second segment of the navigation bar.

Job definitions may be edited with any of the five buttons shown along the bottom edge of the display area: The **create** button will add a new (*fresh*) job definition to the list, simply enter the desired name and click OK. In contrast, the **duplicate** button will copy the currently selected job definition (*including all of its settings*) and then prompt you for a suitable name. Job names may later be changed using **rename**. Job definitions can be permanently removed with the **delete** button.



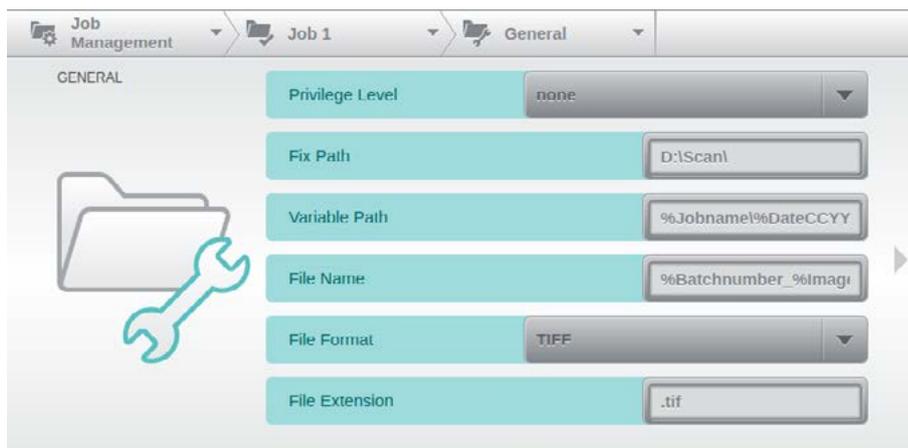
Tapping the **configure** button will open a new menu screen called job menu. All job settings can be accessed here, through one of four sub menus.

As soon as any one setting is modified, additional buttons **save** and **cancel** will appear at the

bottom of the screen. Also, the two top levels of the navigation bar will be disabled, thus preventing you from leaving configuration mode without actively saving or discarding any changes you made.

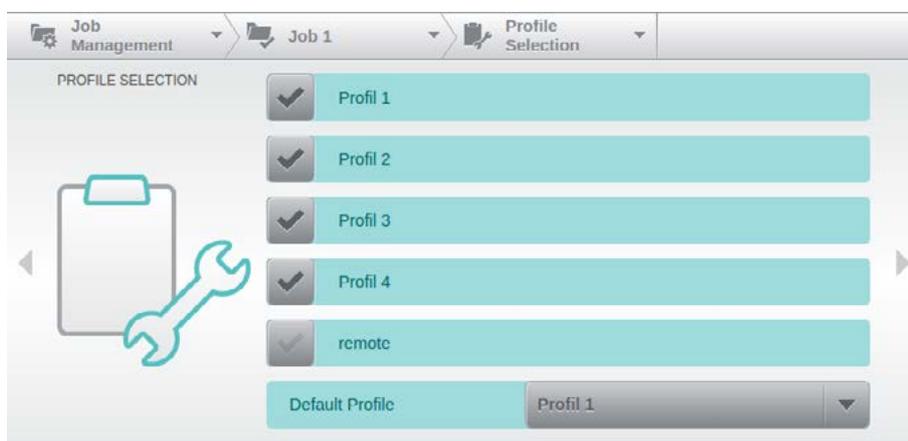
There always is a default job called **No Job**, which cannot be modified or deleted. By definition, this job has access to all existing scan profiles (*see chapter 4.5.2.*) and has been specifically provided for testing internal scan profiles.

### 4.5.1. General



After selecting the item **General** in the Job menu or the navigation bar, the adjacent mask opens in the display area. Since these settings relate to the internal scan-client, they will be discussed elsewhere in this manual.

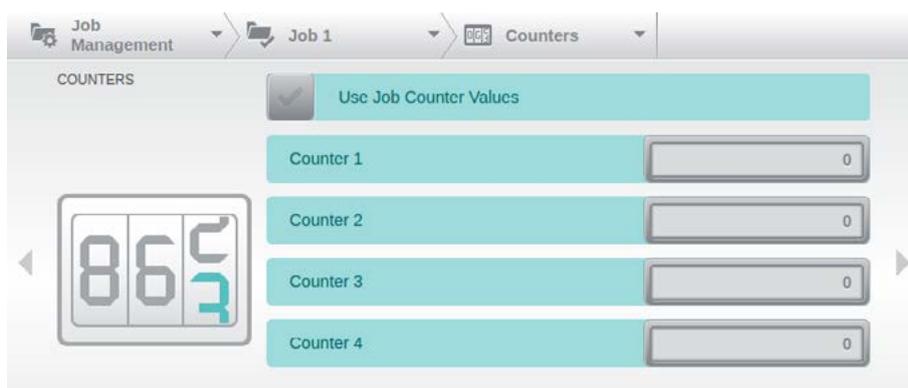
### 4.5.2. Profile Selection



Via the menu item **Profile Selection** all existing Scan Profiles (see chapter 4.6.) in the display area are listed and can be enabled by selection for use in the current job. The field **Default Profile**, at the end of the mask allows you to select the profile, which is loaded at the start of a new stack for this job

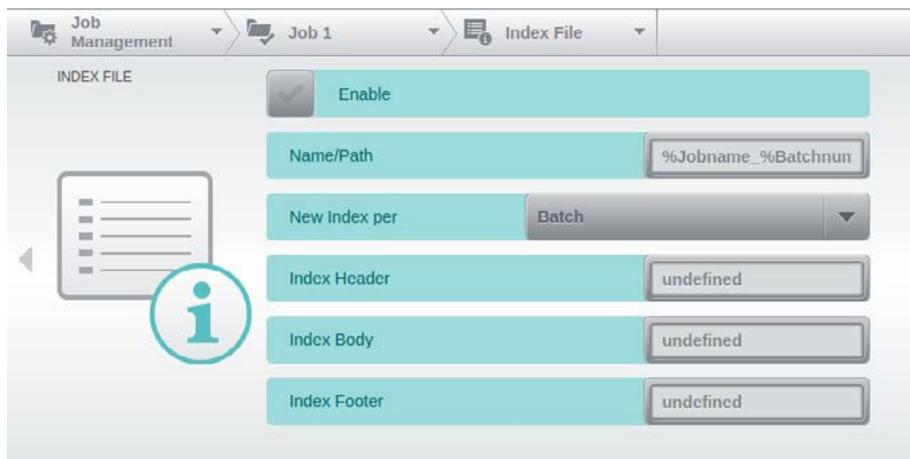
and it shows all the previously selected Scan Profiles in a list.

### 4.5.3. Counters



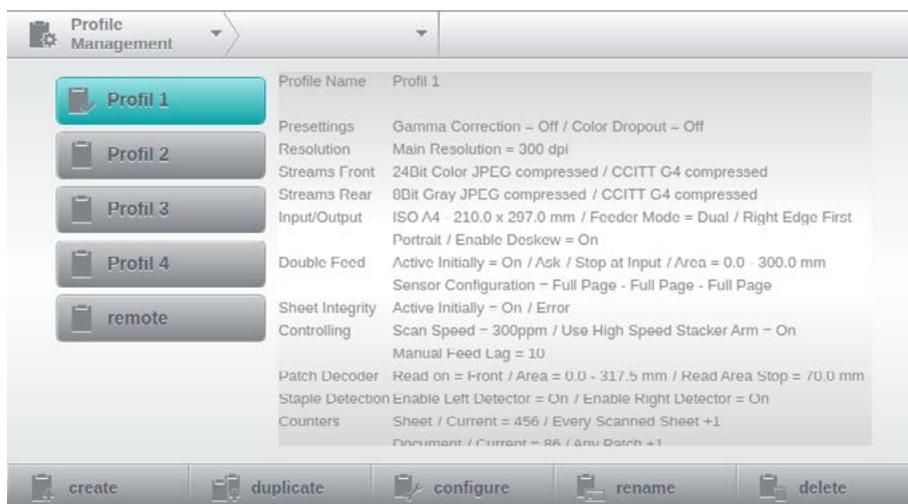
This menu item allows you to adjust the current levels of the four available counters on a numerical field. The importance of the counter and in what way they are used, is defined in the individual Scan Profiles (see chapter 4.6.5.1.).

### 4.5.4. Index File



If index data should be stored together with the generated image files, this can be defined via the menu item **Index File**. Since these settings relate to the internal scan-client, they will be discussed elsewhere in this manual.

### 4.6. Profile Management (Administrator Rights required!)



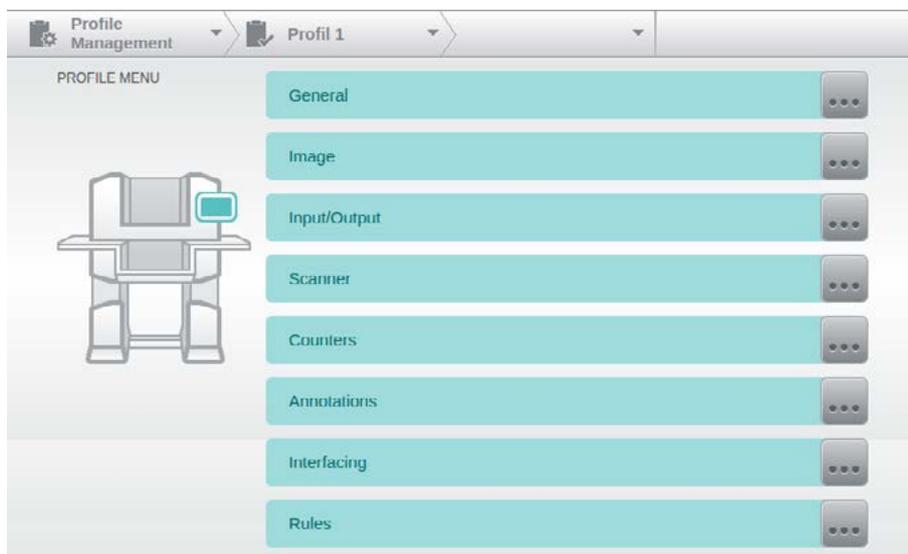
The **Profile Management** allows you to create and manage scan profiles, which contain all the images, paper and scanner settings that are needed for an efficient, project-based scan processing.

When you select the same point in the navigation bar, one gets a key list of available scan profiles in alphanumeric order in the display area

on the left edge. The scan profile currently in use is highlighted turquoise. By tapping the appropriate key the profile you want to edit is selected. In the display area of the list, an overview of the settings of the selected Scan Profile is displayed. The list of profiles can also be viewed via the second segment of the navigation bar and the profile can be selected there.

For editing the scan profiles, five keys are available in the tool bar. Whilst the **create** key generates a new profile based on default values, after entering a profile name into a keypad and confirming with **OK**, a copy of the previously selected profile is created with the key **duplicate**. Again here, a keypad opens and change of the name is prompted. Via the key **rename**, the name of the previously selected profile can be changed and with the key **delete** this profile is permanently deleted.

The key **configure** will open a profile menu with access to all available profile settings, grouped into logical functional groups.



The mask pictured here is graphically edited, because it exceeds the display area of the touchscreen.

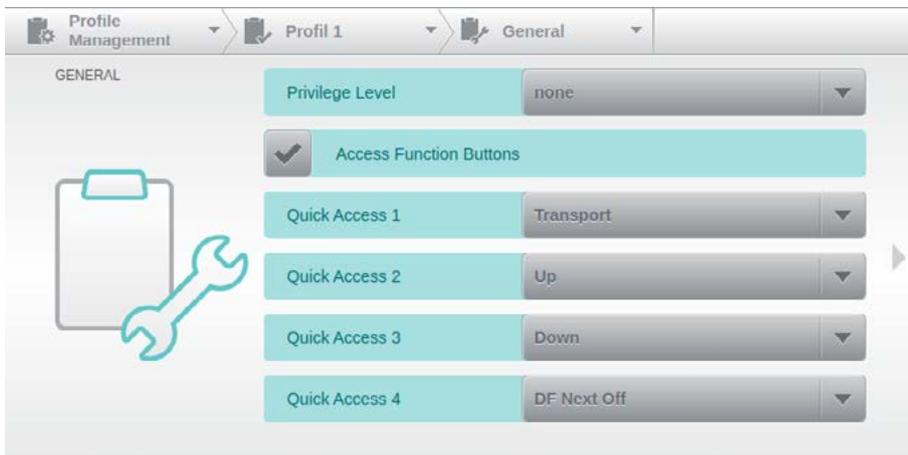
As soon as scanner settings are requested by the external software controlling the scanner, the same dialog will be opened. In this case, **Remote Profile** is selected as the active profile.



During configuration, from the first change of a setting the keys **save** and **cancel** are displayed in the toolbar and selecting the first two levels in the navigation bar is disabled. Exiting the configuration is therefore possible only after backup or discarding the change.

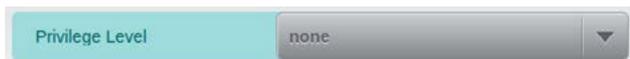
 As soon as any scan-profile has been changed beyond its default settings, a **default** button will appear, in the tool bar. Tapping this key will return *all* settings in this scan-profile to their default value.

### 4.6.1. General



Items on the **General** screen deal with the current scan-profile's access security and accessibility settings.

#### 4.6.1.1. Privilege Level



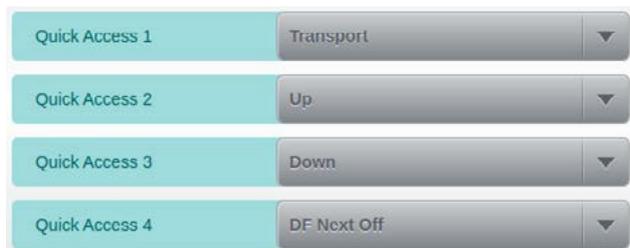
The first of the settings determines whether the use of this scan-profile requires a privilege level or not, and if so, which one (A, B, C). More information on privilege levels at the User Management (see chapter 4.7.1.).

#### 4.6.1.2. Access Function Buttons



This setting enables or disables access to the Button Bar (see chapter 4.3.1.5.) available on the scan screen. Disabling access will prevent the use of these function keys whenever this scan profile has been selected. This setting does not apply to the Quick-Access Buttons described below.

#### 4.6.1.3. Quick-Access Buttons

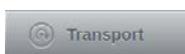


Use these four assignment fields to modify the Quick Access Buttons in the scan screen's button bar. Please note that there is an additional configuration method available, through the button bar itself (see chapter 4.3.1.5.1.).

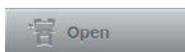
The following function keys may be put to use as *Quick Access Buttons*.



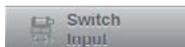
These two controls adjust the scanner's working height. Tapping and holding one of these keys will raise or lower the complete scanner assembly through telescopic action at the device's base, either until the key is released, or until the scanner's minimum or maximum working height has been reached.



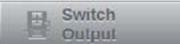
Tapping and holding this key will activate the scanner's paper transport, for as long as this key is pressed.



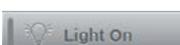
Tapping this key will open the scan plane (see chapter 6.1.), up to its first stop.



When using dual input hoppers, this toggle-key will switch between input trays.

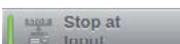
 When using a second output hopper, this toggle-key will switch between output trays.

 Glossy documents (i.e. documents with a highly reflective surface across their full width) may occasionally cause false detection of a *Paper Jam at Paper Input* (see chapter 9.2.7.). Tapping this key will turn the optical sensors off, for the next document, allowing it to be processed as usual.

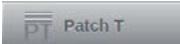
 The **Light On** key will turn on the scanner's LED lighting. The button will change appearance, once activated: the status bar on the left side of the key will turn green and the labelling will change from **Light On** to **Light Off**, indicating that the next tap will turn the LED units off again.

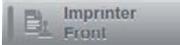
 The **Test Scan** key will switch the scanner's operating mode to test scan mode, allowing a test of its paper handling and event control systems without any scan software being attached. In this mode, no images are produced. When activated, the indicator on the **Test Scan** key will turn green and a corresponding message, highlighted yellow, will be shown in the scan screen's Status area (see chapter 4.1.1.).

 The **Stop at Input** key controls the **Double Feed Detection** option of the same name (see chapter 4.6.4.1.). A green status bar indicates that this function is turned on (default).

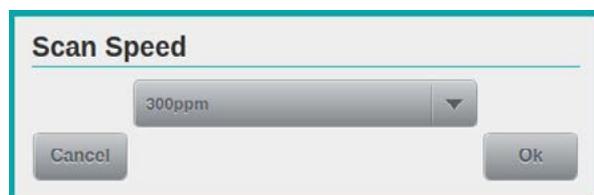
 Pressing the **DF Next Off** key before scanning a document which would otherwise trigger a double feed detection error makes it pass without interruption. This approach only makes sense if **Error** has been selected as the **Reaction at Detection**, in the settings for **Double Feed Detection** (see chapter 4.6.4.1.3.).

 Patch code keys like this one are available for all six of the basic patch code types (T, 2, 3, 1, 4, 6) and will emulate the detection of a respective patch code by the scanner's internal Patch Decoder (see chapter 4.6.4.3.). Whenever one of these keys is pressed during a scan pause, the next document in line will be interpreted as the desired patch code. Pressing these keys while scanning is underway will yield unpredictable results, because of the high feeder speeds.

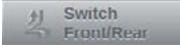
 These two toggle-keys will turn imprinters on or off, regardless of the settings made in their respective configuration screens (see chapter 4.6.6.1.1.). A green status bar indicates that printing is turned on.

 Use this key to manually switch between the currently active output hopper and the rear output hopper..

 Whenever scanning is paused, pressing this key will allow you to change scan speeds without having to load a different scan profile (see chapter 4.6.4.2.1.) , first.



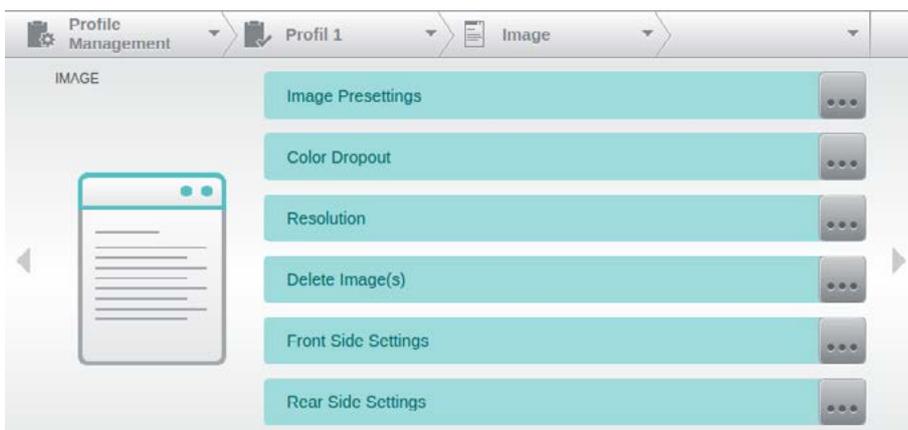
Tapping the key will open a separate screen with a list of available speed levels applicable to this scanner model. The speed levels shown are valid for scan resolutions of up to 300 dpi.

 If scanner counters need to be adjusted during scanning, use this function key to change them without having to open and modify the scan profile.



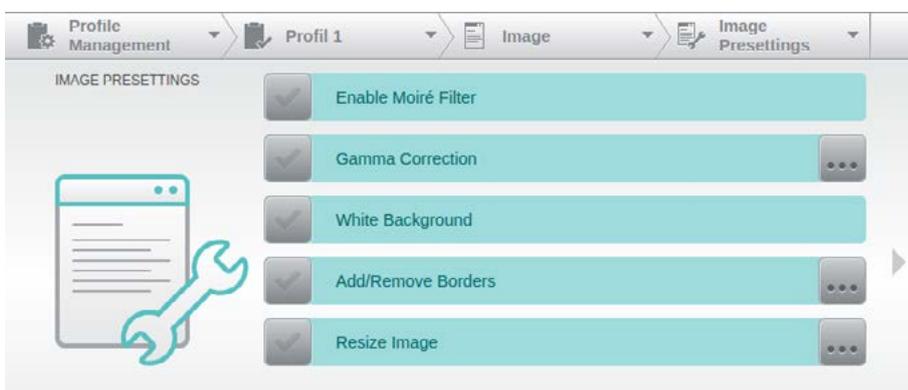
Tapping the key will open a separate screen showing all four counters available in the current scan profile, using their custom **Description** (see chapter 4.6.5.1.2.) and listing their current **Counter Value**. Tapping one of the counter fields will launch a keypad (see chapter 4.2.1.), allowing you to change the value.

### 4.6.2. Image



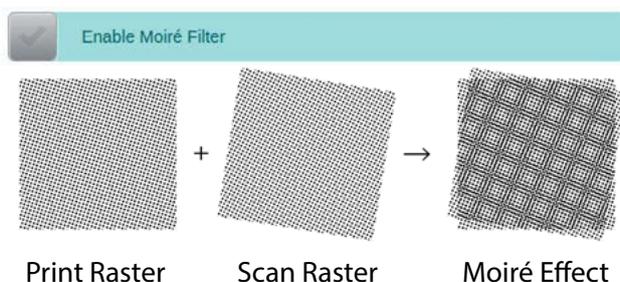
In the menu **Image**, all profile settings that defines the creation of digital images, can be selected via six sub-menu. Selecting one of the menu items, branches directly to the associated setting masks, which are explained in detail below.

#### 4.6.2.1. Image Presettings



The setting group **Image Presettings** contains image influencing parameters that are defined centrally and significant for all streams and sides.

##### 4.6.2.1.1. Enable Moiré Filter

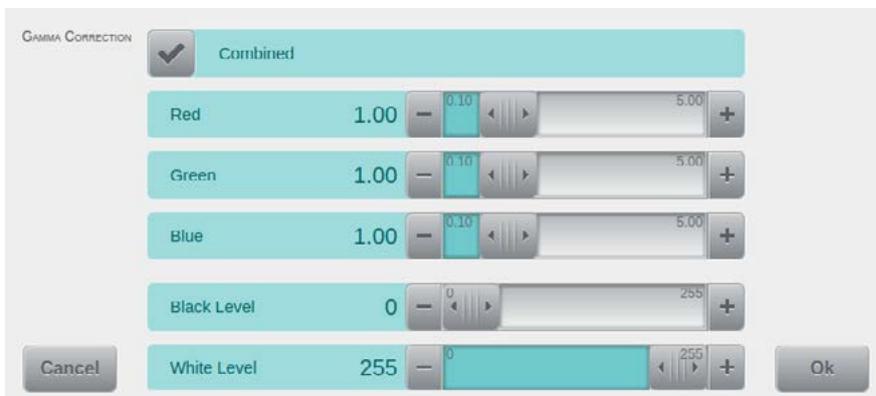


By enabling the **Moiré Filter** an correspondent effect can be decimated, which can occur while scanning raster artworks when printing and scanning grid interfere with each other.

## 4.6.2.1.2. Gamma Correction



After activating **Gamma Correction** option, you may adjust the brightness of a scanned image, for all three color channels and for the greyscale channel.



The extended menu has slide controls for each of the three color channels **Red**, **Green**, and **Blue** (RGB), which default value is 1.0 and can be increased to 5 in steps of 1/10th. The activated option field **Combined** provides simultaneous adjustment of all color channels as soon as one of the three values is

changed. The brightness of the color channels is divided into 256 levels and influenced by the two lower sliders of **Black Level** and **White Level**. Whilst the **Black Level** has a default value of 0 and brighten color tones are darkened by its increase, the **White Level** is 255 in default cases and provides the brightening of darker color zones by its reduction.

## 4.6.2.1.3. White Background



Checking **White Background** will inform the profile of the fact that the Scan Background has been switched to white (see chapter 5.5.1). As a result, the scanner's document recognition and certain other imaging functions will internally adapt themselves to the changed background color. Before using this setting, you will have to deactivate **Optimized Gap** (see chapter 4.6.4.2.8.).

## 4.6.2.1.4. Add/Remove Borders



Use this menu item to add borders of specific width, to all scanned images. Selected areas may be removed from images, by specifying negative border values.



**Switch Right and Left on Back** will automatically swap the values for right and left border size, on all reverse sides of scanned document sheets.

Tapping the Color button in the center of the screen will open a color picker dialog (see chapter 4.2.2.), which you can use to set the fill color for all border areas added.

**Please note!**

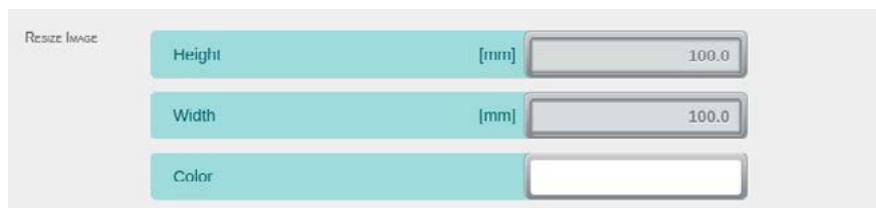
When removing border areas, make sure to not truncate any image content.

#### 4.6.2.1.5. Resize Image



Whereas the previous option will selectively enlarge or reduce images along their edges,

**Resize Image** will crop or expand images regardless of their original format.



You may specify target **height** and **width** with a resolution of a tenth of a mm. If the original image is smaller than the image area specified here, then the resulting empty area

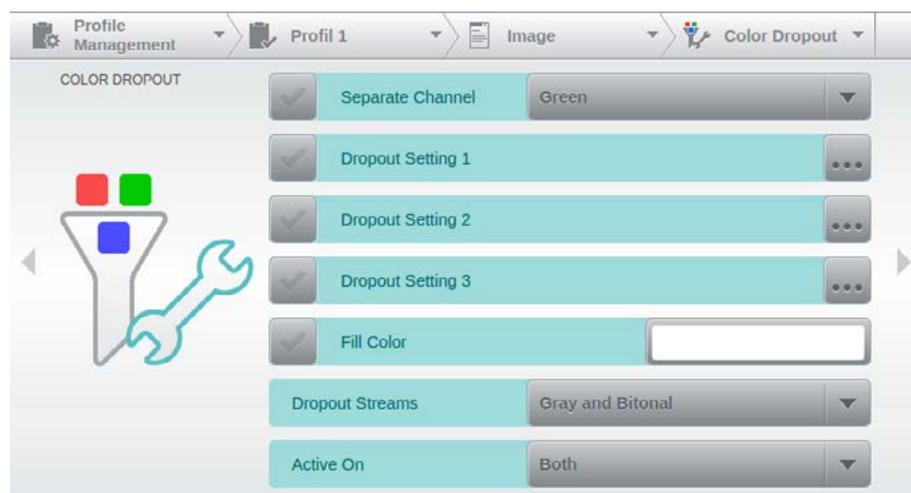
will be filled with the color specified. Tapping the **Color** field will open a color picker dialog (see chapter 4.2.2.) for selecting the desired fill color.

If the original image is larger than the image area specified here, the image will first be centered and then evenly trimmed, according to the width and height settings.

**Please note!**

Image content may be irrevocably lost if the image is larger than the width and/or height specified here.

#### 4.6.2.2. Color Dropout

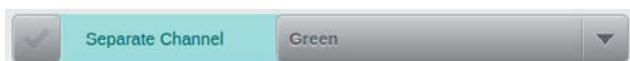


This screen covers all functions available for color removal and also specifies which image types they are applied to. Two main methods of color removal are supported, both will be explained in more detail, below.

The mask pictured here is graphically edited, because it exceeds the display area of the

touchscreen.

##### 4.6.2.2.1. Separate Channel



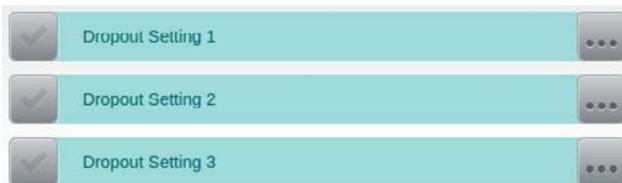
A simple, but nonetheless effective method is the removal of an entire color channel. Checking

**Separate Channel** and selecting one of the available three colors (**Red/Green/Blue**) will cause this color to be ignored, in the resulting grayscale image. This roughly corresponds to the operating principle of an optical color filter. Activating **Separate Channel** will simultaneously disable all three of the Dropout Settings described further below.

**Please note!**

If this method of color removal is used with the Color stream turned on (see chapter 4.6.2.5.1.), only grayscale images will be transferred, instead of color images.

4.6.2.2.2. Dropout Setting 1-3



A more flexible method of color replacement is achieved by processing accurately defined color ranges. For this purpose, three separate Dropout Settings are available, which may be configured individually, but can be used in parallel.



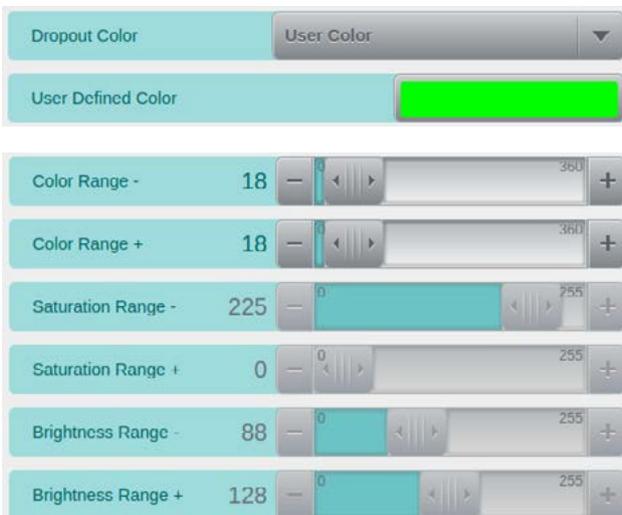
For each of the Dropout Settings, the applicable color range is specified through the configuration screen shown to the left.

The mask pictured here is graphically edited, because it exceeds the display area of the touchscreen.

The uppermost field is used to define the actual **Dropout Color**. Besides several pre-defined hues (**Red**, **Yellow**, **Green**, etc.) you may also select

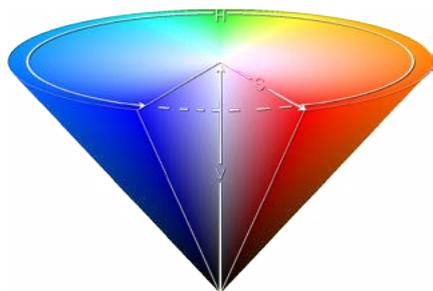
**Dominant Color**. This setting is helpful for detecting and removing interfering background colors, before further processing is performed. **Please note** - Should there be no background color, this function might misinterpret colored text as being dominant - and possibly remove it!

Selecting **All Colors** as dropout color will remove any color from the image and only retain grayscale information.



Selecting **User Color** will activate the color selection area, just below. Tapping this field will open the color picker dialog (see chapter 4.2.2.), which you can use to precisely set a **Dropout Color**.

The slide controls in this section will limit the function's range of operation with regard to color, saturation and brightness. The sliders will assume different default settings, depending on the selection made for **Dropout Color**. The reason for this and the principle of operation is best explained using the HSV color model. The scanner processes color information according to the color's *hue (H)*, *saturation (S)* and *brightness (V)* values, resulting in a device dependent HSV color model. This model is represented by



the cone shown to the left. Any color will correspond to some point, on or within the cone shaped volume. Whereas hues are located along the rim of this cone and are represented by some angle between 0 to 360, the possible values for saturation and brightness have finite limits of 0 and 255. For each of these three parameters, the Range - and Range + settings determine the tolerances allowed, with respect to the selected dropout color. This makes it possible to intentionally include image areas with blended colors, or frayed border areas. For Saturation, the Range - and Range + settings determine whether paler or more saturated shades of the dropout color

will also be removed. For Brightness, the Range - and Range + settings determine whether brighter or darker shades of the dropout color will also be removed. In order to arrive at useful settings, you should start by tuning the **Range – settings**, for Brightness and Saturation. The reason is that darker or more saturated colors are usually already covered, by the default values discussed below.

The Default values for **Color Range** depend on the **Dropout Color** selected. For **All Colors**, the default values are fixed at +/-180, thus ensuring that all color information is removed. For all other settings, both range values default at +/-18, which results in relatively precise color removal. However, these values may be changed. The default values for **Brightness Range** and **Saturation Range** are derived from the selected **Dropout Color**. For the Range – defaults, the selected **Saturation** value is reduced by 30 and the selected **Brightness** value is reduced by 40.

For the Range + defaults, the selected values for Saturation and Brightness are subtracted from the maximum possible value of 255, in either case. As a result, even less saturated image areas and the largest possible brightness range will be covered by these default values, whereas very dark levels will be not be taken into account. With the exception of **User Color**, all other **Dropout Colors** are preset to a **Brightness** value of 128 and a **Saturation** value of 255. Therefore, the respective default values are 255/+0 for **Saturation Range**, and 88/+128 for **Brightness Range**. If **User Color** is selected, the default values for **Brightness Range** and **Saturation Range** are determined dynamically, on the basis of the **Dropout Color** selected.

#### 4.6.2.2.3. Fill Color



Checking **Fill Color** will replace the color removed by the Dropout Setting with another color of your choice. Tapping the color selection area will open the color picker dialog (see chapter 4.2.2.), which you can use to precisely set a replacement color. If **Fill Color** remains unchecked, the color specified in a Dropout Setting will be filled with the color surrounding the replacement area.

#### 4.6.2.2.4. Dropout at



The lowermost two settings on this screen determine which image types the effects of Color Dropout are applied to. **Dropout Streams** will include **All Streams**, **Gray and Bitonal** or **Bitonal only**. **Active On** will include **Front**, **Back** or **Both** sides of scanned pages.

#### 4.6.2.3. Resolution

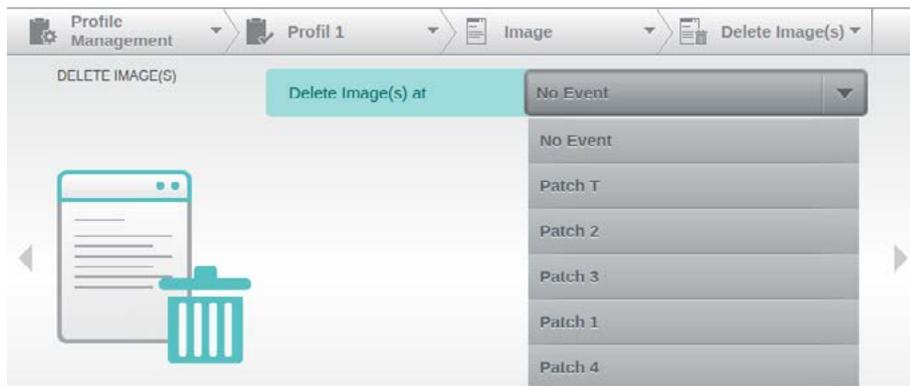


In this mask, the **Main Resolution** field shows the scan resolution which is basically valid for all the images, unless no different resolutions are selected in the image type settings (following chapters). Possible resolutions are 150, 200, 300, 400 and 600 dpi.

#### Notice

Selecting a main resolution higher than 300 dpi will automatically reduce scan speed to 80 sheets per minute.

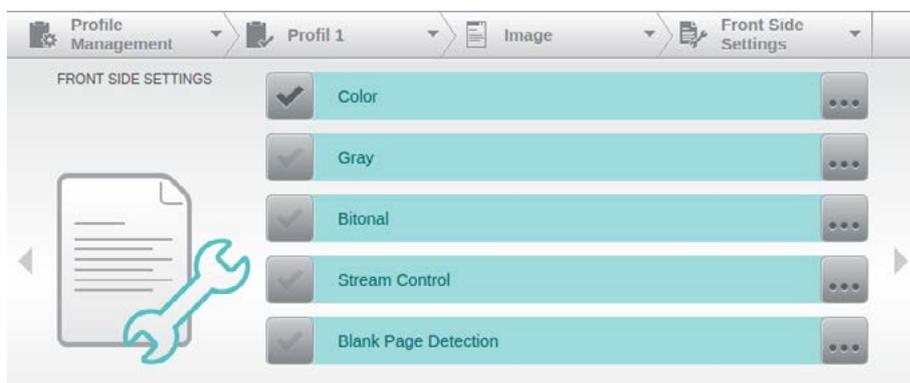
#### 4.6.2.4. Delete Image(s) at



This function will remove all images belonging to a scanned page, whenever a certain scan-time event occurs. In the configuration screen, you may choose a suitable entry from the event list (see chapter 4.2.3.) using the drop-down menu in

field **Delete Image(s) at**. Please note that the event itself (e.g. a patch code was detected) is memorized, whereas all affected images are immediately deleted. Such a deletion will be flagged with a red X, in the stream information area of the scan screen (see chapter 4.3.1.1.).

#### 4.6.2.5. Front/Rear Side Settings



Using the menus of the Front/Rear Side Settings it is determined which images are created during a scanning operation and which settings will be used therefore.

Images are only stored for image types that are enabled on the left side in these masks. If no image type is activated for the rear side, it is called simplex scan. If more than one image type is enabled on one side, it is called dual- or multi-stream. With the fields on the right side one comes to the respective settings. Checking **Stream Control** will enable dynamic switching between image types, while scanning. **Blank Page Detection** will perform automatic deletion or earmarking of any images without discernible content.

Above features will be explained in more detail, below. Since all related settings are identical for front and back pages, they will only be discussed once, and only sample screens for front pages will be shown.

##### 4.6.2.5.1. Color



This menu item will turn the color stream on or off. Configure the properties of color images with the following three settings pages:



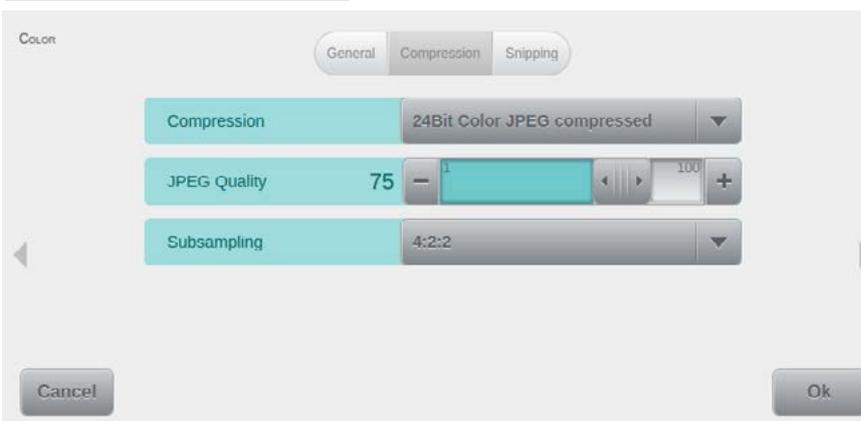
**General:** The **Copy to Back** option which is enabled by default will apply all settings made for front color images to the reverse side. A similar option is available when configuring back color

images, this option is labelled **Copy to Front** and will do the exact opposite. If you require identical front and back settings, then checking this option will eliminate the need to configure them twice.



From the drop-down list in field **Resolution**, you may select an individual scan resolution, only valid for this stream. The default setting is **Main Resolution**, indicating that this stream will adopt the resolution set in the field of the same name, on the **Resolution** screen (see chapter 4.6.2.3.). The entries listed above Main Resolution, here, correspond to the other standard resolutions also offered on the Resolution screen. The entries listed below Main Resolution, on this screen, are three special resolutions only offered here and created through downscaling.

You may only select a resolution which is equal or less than the **Main Resolution**. If you select any higher resolution, you will receive a message to this effect, when attempting to save your settings.



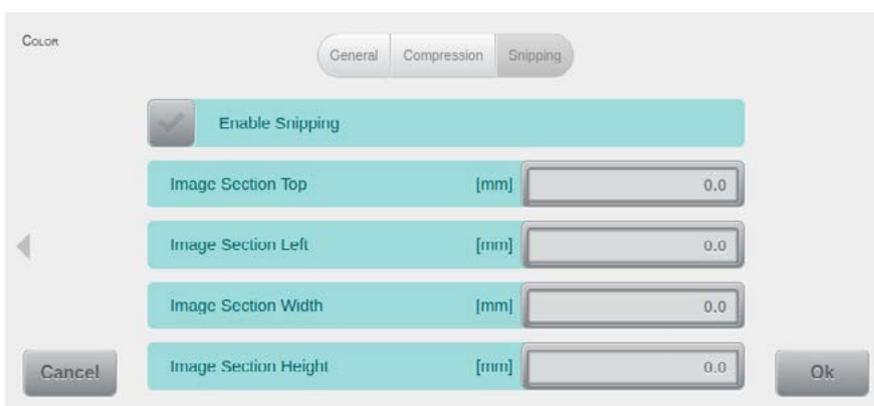
**Compression:** Use the drop-down selector for Compression to switch between JPEG-compressed (*default*) and uncompressed color image output.

When selecting compressed transmission, you may also specify the desired **JPEG Quality**. The default value (75) will result in high quality JPEG images. Please

note that increasing or reducing this value will not only affect picture quality, but also increase and reduce image file size..



**Subsampling** is another JPEG-related setting. To achieve higher compression, this setting will enforce different sampling rates for chrominance (*color*) and luminance (*brightness*) information. For detailed information about the three selections offered here, please refer to the pertinent literature on JPEG compression.



**Snipping:** Enabling the **Snipping** feature will limit transmission to a specific area within the color image. **Image Section Top**, **Image Section Left**, **Image Section Width**, **Image Section Height** define the area to be used.

If only partial images are transmitted, for this stream, this will be indicated

in the stream information area of the scan screen (see chapter 4.3.1.1.) with a symbol resembling a pair of scissors.

### 4.6.2.5.2. Gray



The creation of the gray image is activated via this menu item and configured within its three setting masks.



Apart from the missing **Subsampling** setting in the **Compression** screen, all configuration items here are identical to those of the Color stream.

### 4.6.2.5.3. Bitonal



The creation of bitonal image is activated via this menu item and configured within its setting three masks.



The **General** and **Snipping** pages for bitonal images are largely identical to those for color images (see

chapter 4.6.2.5.1.). However, the control for the bitonal image **Compression** has been added to the **General** settings page. Use this control to switch between CCITT G4 compression (*default*) and no compression.



**Binarization:** All controls on this page are required to fully parameterize the dynamic binarization function. However, the three settings for **Brightness**, **Contrast** and **Outlining** having the biggest impact on the underlying algorithm. Generally speaking, **Brightness** refers to a threshold value (*above which*

*a pixel is considered white*), whereas **Contrast** refers to the weighting of background versus foreground information. **Outlining** will differentiate between filled areas and the borders surrounding them.

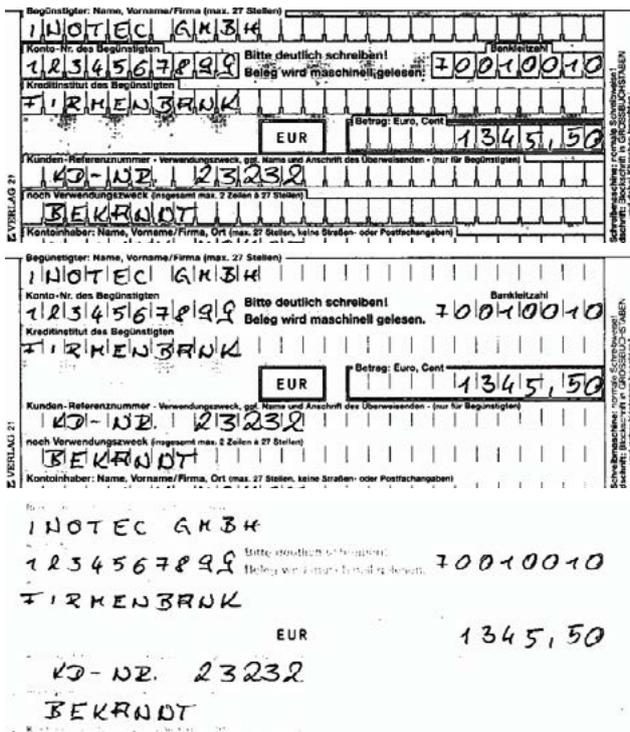
Below, please find a more detailed description of each of these settings: :



The **Brightness** setting will determine above which grayscale level (0 – 255) a pixel is no longer considered black, but white. The default value of 200 is an indication that usually, even comparatively high grayscale values should be interpreted as black.



Consider the grayscale image at the left, which will serve us as an example, you will notice, that in the resulting bitonal image (*below*),



the background has been successfully removed from the form when applying the default Brightness threshold of 200. Appropriately adjusting the two other settings has resulted in all gray areas to be converted into (*predominantly*) white areas.

After reducing the **Brightness** value to 150, only notably lower grayscale values are considered and returned as black pixels, after binarization.

Finally, when further reducing the **Brightness** value to 100, like in this example, only the very lowest grayscale levels survive (*as black pixels*). The form's background information now has effectively disappeared.



The **Contrast** setting will change the weighting of image background (*lighter information*) versus image foreground (*darker information*). The range for this setting (*again*) is 0 – 255, with the setting's effect reversing at midpoint: For **Contrast** settings from 0 to 128, the image background will be increasingly attenuated, in relation to the image foreground. Beyond midpoint, the image background will slowly reappear, with the darker shades of gray being reproduced progressively thinner.

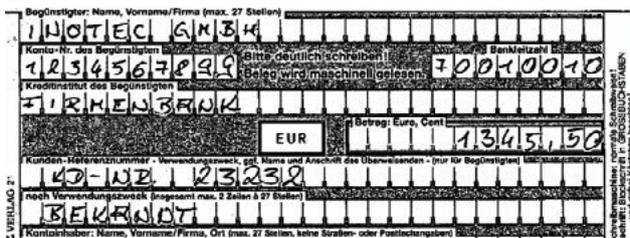
Again, let's consider the setting's effect by considering the sample grayscale image, to the left.



The default value of 30 will ensure that as little image information as possible is lost. Merely the gray areas on the form and the gray appearance of the paper itself are largely suppressed, whereas all other image information is preserved. Please note that this result, of course, will require appropriate **Brightness** and **Outlining** settings.



By reducing the **Contrast** setting to 0, the weighting effect is more or less nullified: Anything not attributed to the paper's surface is now interpreted as foreground information. Note how dark gray patterns on lighter areas have been surrounded with white pixels, in order to preserve legibility





After increasing the **Contrast** level to 100, only the darkest shades of gray are interpreted as foreground information. Everything else is considered background and removed.



The **Outlining** function is based on edge detection and changes the way filled areas are treated, during binarization.



In order to illustrate the function's operation, we'll use our company logo as an example. The InoTec logo (*left*) is composed of adjacent white, black and red areas.



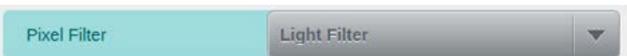
The default **Outlining** setting of 50 suppresses all red areas, only the boundaries around them remain. As a result, the logo's overall appearance is preserved. Please note how the white letters in the lower logo area have been surrounded with black pixels, in order to ensure legibility.



When reducing **Outlining** to 0, all solid black areas are removed, too. This includes the insides of the large black letters, so only their contour is reproduced. In spite of these drastic changes, the logo's shapes and lettering can still be fully recognized.



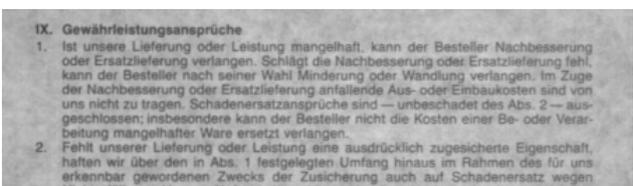
After increasing the **Outlining** level to 100, the shape on the left side of the logo is no longer recognizable and the lower logo area has been solidly filled.



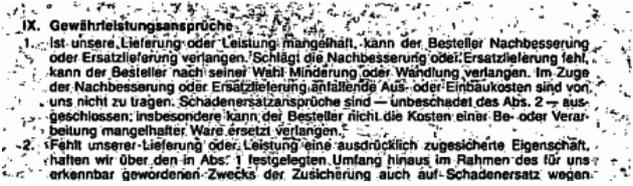
The operation of **Pixel Filter** is very similar to how a despeckle function works.



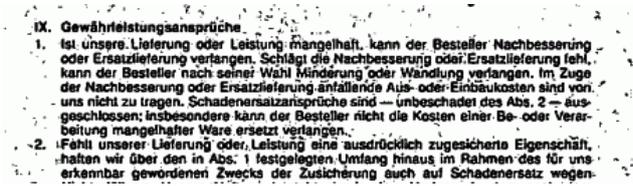
whereas despeckle is used to remove isolated pixels or small clusters of pixels from bitonal images, **Pixel Filter** is applied to grayscale images, before binarization. This approach improves readability of darker or smudged documents and also minimizes the risk of destroying any image content (*letters, numerals*).



As an example, please consider the image shown to the left. We have chosen a document with light gray/smudged background and dark gray (*not black*) lettering. As a result, the color difference between background and text is alarmingly small, in some areas of the image.



When converting this image to bitonal with standard settings and **Pixel Filter** turned off (**No Filter**), readability is clearly impaired due to the high amount of noise (*pixels*) appearing in the text's background.



Applying a **Light Filter** (default) will improve conversion quality appreciably, resulting in much better text readability.

**IX. Gewährleistungsansprüche**

1. Ist unsere Lieferung oder Leistung mangelhaft, kann der Besteller Nachbesserung oder Ersatzlieferung verlangen. Schlägt die Nachbesserung oder Ersatzlieferung fehl, kann der Besteller nach seiner Wahl Minderung oder Wandelung verlangen. Im Zuge der Nachbesserung oder Ersatzlieferung anfallende Aus- oder Einbaukosten sind von uns nicht zu tragen. Schadenersatzansprüche sind – unbeschadet des Abs. 2 – ausgeschlossen; insbesondere kann der Besteller nicht die Kosten einer Be- oder Verarbeitung mangelhafter Ware ersetzt verlangen.
2. Fehlt unserer Lieferung oder Leistung eine ausdrücklich zugesicherte Eigenschaft, hatten wir über den in Abs. 1 festgelegten Umfang hinaus im Rahmen des für uns erkennbar gewordenen Zwecks der Zusicherung auch auf Schadenersatz wegen

Switching to **Strong Filter** will improve conversion quality further, the resulting image contains even less noise and appears clearer.



Activating the **Disable Dynamic** control will turn off the complex and powerful binarization function offered by the scanner, an algorithm designed to create the best possible bitonal images from virtually any mix of source documents.

The settings for **Contrast** and **Outlining** will be ignored and binarization will revert to using a fixed threshold, which is specified with the **Brightness** slide control.

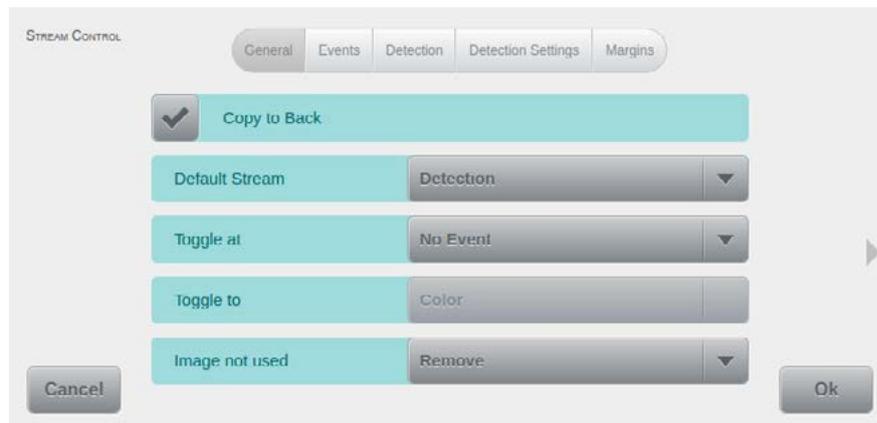
The settings for **Contrast** and **Outlining** will be ignored and binarization will revert to using a fixed threshold, which is specified with the **Brightness** slide control.

Please note: When processing purely black & white input documents, a fixed brightness threshold may produce output images of equal or even better quality.

4.6.2.5.4. Stream Control

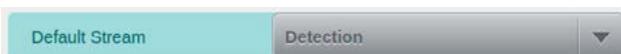


The menu item **Stream Control** enables a special mode, which determines during the scan process, which image format will be created, based on its settings and the detections. All activations of streams of this page (*Color/Gray/Bitonal*) are reset upon activation of the Stream Control, however its settings remain, since they are required for generating the respective image type, via **Stream Control**. Configuration of **Stream Control** may be performed through the following settings screens.

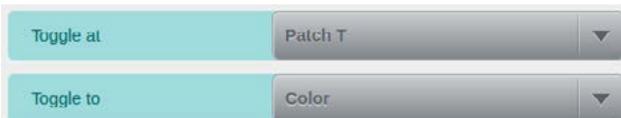


Checking the option at the top of the **General** screen will either activate **Copy to Back** (front side) or **Same as Front** (back side). As a result, all settings made for front sides will also be applied to reverse sides, or vice versa.

The following four fields deal with global settings, for Stream Control



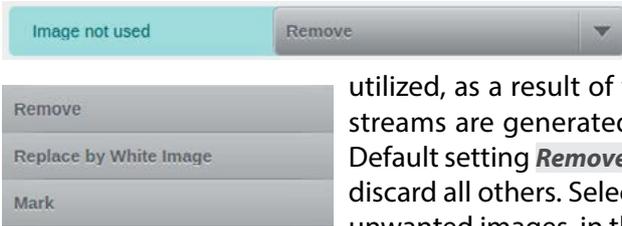
Use **Default Stream** to determine the image type initially transmitted, when using **Stream Control**. You may choose one of the three image types (*Color, Gray, Bitonal*) or **Detection**, which will identify the current image type, automatically. The Detection result will depend on settings made in configuration screens **Detection** and **Detection Settings**, and naturally also on the type of document scanned.



These two items control **Toggle-Mode**, which will switch between the **Default Stream** and an image type of your choice. The same event is used to switch back and forth. Choose an event from the event list (see chapter 4.2.3.) offered through field **Toggle at**. Once you have selected an event, the **Toggle to** field will become active, which you can now use to select the alternate image type. Again, you may choose one of the three image types (*Color, Gray, Bitonal*) or **Detection**, just as for **Default Stream**. For as long as **Toggle-Mode** is active, any other event driven switching of image type, as defined on the **Events** screen, will be deactivated.

Once you have selected an event, the **Toggle to** field will become active, which you can now use to select the alternate image type. Again, you may choose one of the three image types (*Color, Gray, Bitonal*) or **Detection**, just as for **Default Stream**. For as long as **Toggle-Mode** is active, any other event driven switching of image type, as defined on the **Events** screen, will be deactivated.

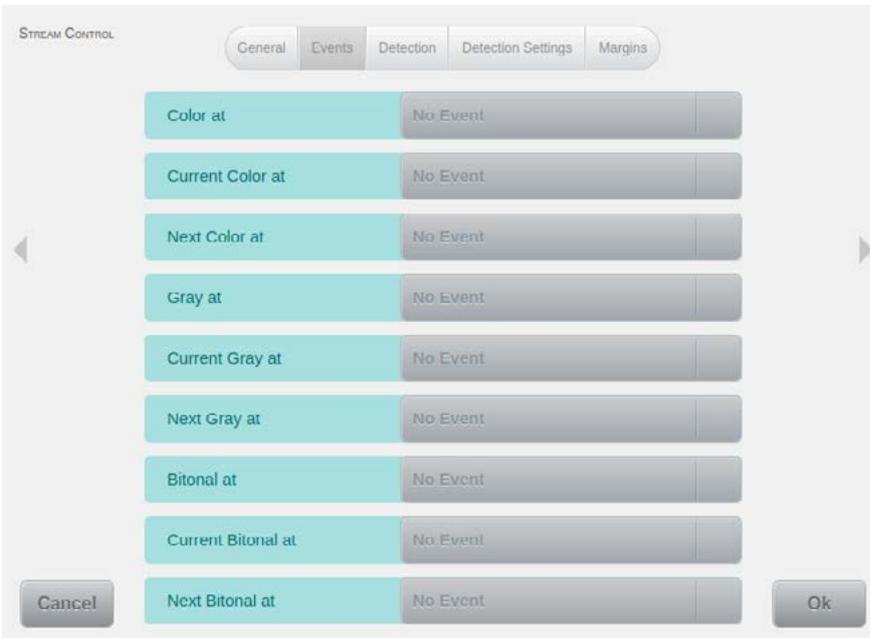
Please note: On the one hand, the use of the *Toggle-Mode* will simplify document preparation, since e.g. only one patch code type needs to be inserted, to effectively switch between two image types. On the other hand, the resulting sequencing might confuse scan operators if the scan process is interrupted for any reason, e.g. by a scan pause or an error.



The last field on this configuration screen determines what happens to images which are not

utilized, as a result of the settings in **Stream Control**. Initially, all three streams are generated and then processed according to this setting. Default setting **Remove** will only let the desired image type through and discard all others. Selecting **Mark** will transmit all streams, but it will tag unwanted images, in their metadata. This information can then be used

by scan software to determine appropriate treatment (e.g., it could set deletion markers). Selecting **Replace by White Image** will also transmit all streams, but it will replace unwanted images with uniformly small and white images. This setting might be useful whenever the scan software neither supports mixed streams nor has the ability to interpret tagged metadata. All it will need to do instead, is to apply blank page detection and remove any small, white images.



On the **Events** screen, you can define various methods for event driven switching of image type. Three drop-down fields are available, per image type, which will each let you select an item from the event list (see chapter 4.2.3.). Your choices will determine the exact method of switching used. These methods will be discussed in more detail below, using a color image as an example.

The mask pictured here is graphically edited, because it exceeds the display area of the touchscreen..



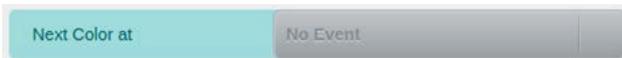
This method will permanently switch to image type *Color*, whenever the selected event occurs.

This setting will remain active until it is overridden by another method.



This method will temporarily switch to image type *Color*, whenever the selected event occurs.

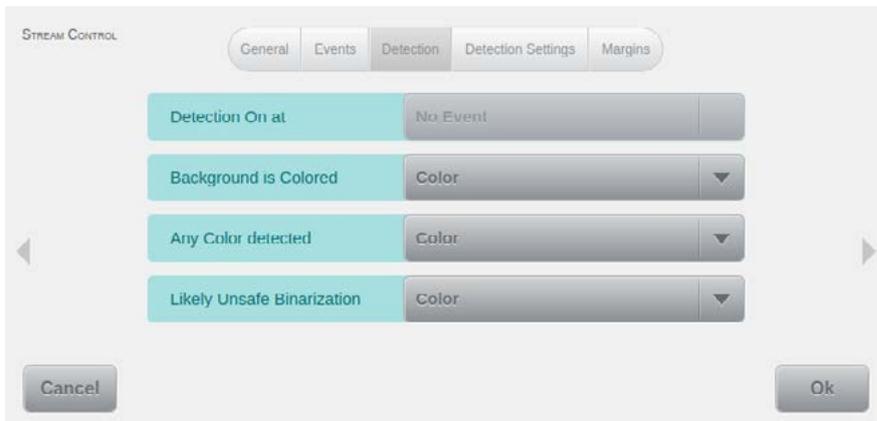
The switch to Color will only apply to images belonging to the document triggering the event. Subsequent documents will revert to the previous image type.



The third method, too, will temporarily switch to image type Color. Here, however, the switch

to Color is only applied to images of the document following directly after the document triggering the event. For example, if *bitonal* was set as the **Default Stream** (see previous page), then a patch code triggering this method would remain bitonal, whereas the document following the patch code would be switched to Color. Subsequent documents would revert to bitonal again.

If all fields on this screen have been deactivated, then Toggle-Mode must have been selected, using field **Toggle at** (see previous page). Conversely, if any fields on this screen are selected first, both Toggle fields on screen **General** will be deactivated.



The settings on this screen will determine the outcome of the built-in **Detection** of image types.

If Detection isn't already selected as the **Default Stream**, then it may be activated later on, by an event specified in the uppermost field. It can also be re-activated through this setting, should some

other event have caused a switch to another image type, beforehand. As always, you may choose an item from the event list (see chapter 4.2.3.).



Since the default image type is always **bitonal**, whenever Detection is active, the three lower fields will allow you to selectively switch over to color or gray, depending on results from the built-in detection process. **Background is Colored** is based on the analysis of the image background, whereas **Any Color Detected** responds to color information found in the image foreground. **Likely Unsafe Binarization** is based on a threshold value, indicating that too much detail information would be lost when converting this image to black and white.



Use the four fields on this screen to modify the basic operating parameters of the built-in Detection mechanism described earlier. Please note that unsuitable settings may spoil proper operation of the entire detection process. Therefore, any changes made should be immediately verified using representative sample documents.



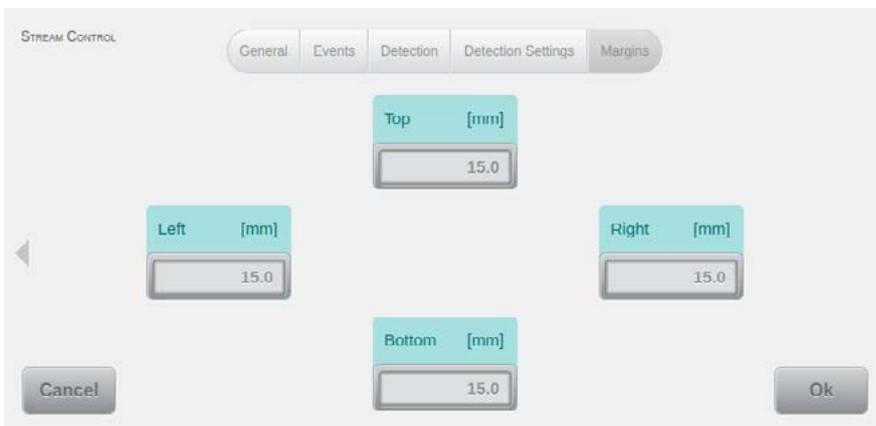
**Color Threshold** essentially corresponds to the amount of color information found on an image, i.e. the higher the threshold the more color information is required, before classifying an image as being Color.



The next two fields influence detection sensitivity. **Color Sensitivity**, too, is a threshold value. It determines the amount of color deviation required, with respect to neutral grayscale shades, before classifying an image as being Color. However, in this case, the higher the threshold value, the less deviation from grayscale is required. Checking **Luminance Dependency** will dynamically reduce **Color Sensitivity**, whenever image areas are lighter or darker than the mean value.



The **Binarization Threshold** is the level beyond which **binarization** is considered **unsafe**. The lower this level is set, the more important smaller details will become and the faster the switch from bitonal to the desired alternate image type (see far above) will happen.



Use the **Margins** screen to define the image area considered by internal detection mechanisms. If, for example, you needed to exclude colored company logos at the top of documents, you would increase the margin setting for the top edge.

#### 4.6.2.5.5. Blank Page Detection



The function **Blank Page Detection** allows to identify and discard or mark the images without content, based on a multi-stage analysis and is configured with the following four settings pages:



The **General** settings page contains just one control: The **Copy to Back** option (visible when editing front side settings) and the **Same as Front** option (visible when editing back side settings) will duplicate and apply all settings made on one side, to the other.



**Threshold:** Use the two sliders for **Mark Threshold** and **Remove Threshold** to set these values, as desired. Please note that the threshold value for marking blank pages may never be smaller than the threshold value for blank page removal. If immediate blank page deletion is generally undesired, please set **Remove Threshold** to 0.



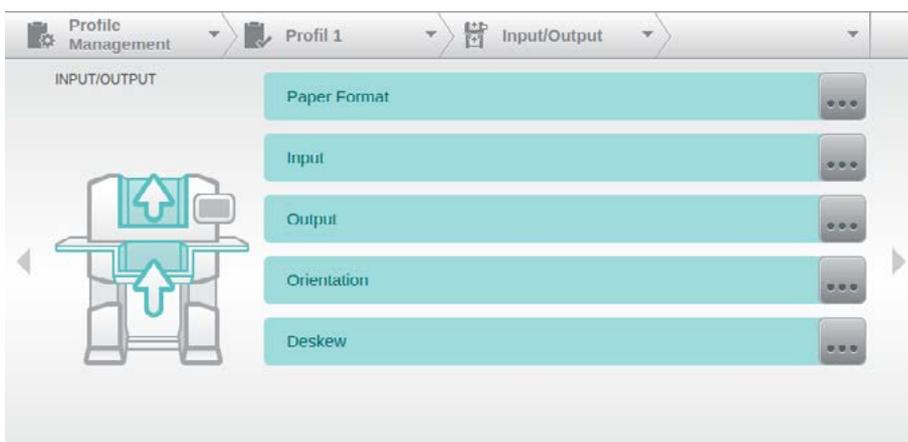
**Sensitivity:** Use the slider for **Sensitivity Level** to increase or reduce the overall blank page detection sensitivity.

Activating the **Area Dependency** option will put the amount of data detected on an image in relation to the total size of that image. Deactivating this option will cause blank page detection to operate using the absolute amount of data detected, without consideration of image size.



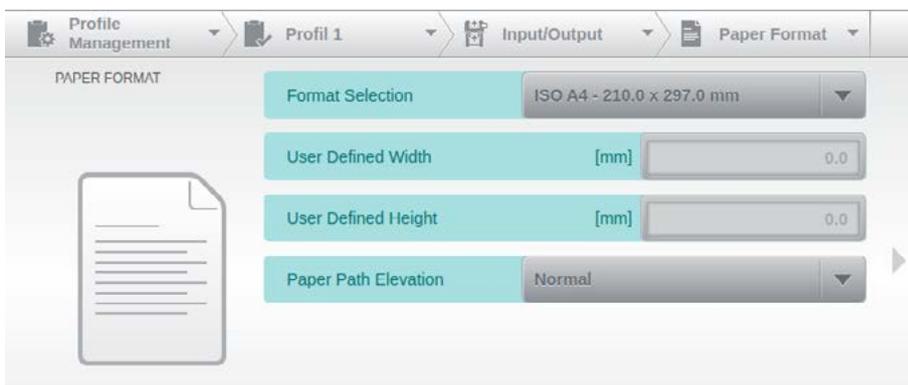
**Margins:** Reduces the image area utilized for blank page detection by the margins specified here. The default value of 15 mm will be sufficient to exclude typical document marks (such as punch and staple holes) from blank page detection.

### 4.6.3. Input/Output



In the **Input/Output** menu all profile settings that define the paper input and the image orientation, can be selected by five sub-menus. Selecting one of the menu items, branches directly to the associated setting masks, which are explained in detail below.

#### 4.6.3.1. Paper



The setting group **Paper** contains parameters dealing with the size of the documents to be scanned.

##### 4.6.3.1.1. Format Selection



Images of documents which are smaller than the chosen format can be automatically adjusted to their actual size. This is achieved through the scanner's internal image processing, using the **Deskew** function (see chapter 4.6.3.5).

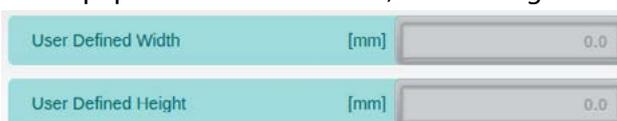
Maximum Scan Area
ISO A3 - 297.0 x 420.0 mm
ISO A4 - 210.0 x 297.0 mm
ISO A5 - 148.0 x 210.0 mm
ISO A6 - 105.0 x 148.0 mm
ISO A7 - 74.0 x 105.0 mm
ISO B4 - 250.0 x 353.0 mm
ISO B5 - 176.0 x 250.0 mm
ISO B6 - 125.0 x 176.0 mm
ISO B7 - 88.0 x 125.0 mm
US LEDGER - 11.0 x 17.0 inch
US LEGAL - 8.5 x 14.0 inch
US LETTER - 8.5 x 11.0 inch
US EXECUTIVE - 7.25 x 10.5 inch
US INVOICE - 5.5 x 8.5 inch
User Defined Format

The list shows the most common paper formats. The specification is always in portrait orientation. Specifying landscape and portrait formats is not necessary here, since the orientation of paper feed is defined in a separate point.

If the size of the Scan templates is not known, the first entry **Maximum Scan Area** can be used. In this case, always the maximum scan width of 317.5 mm is processed. The maximum length will depend on the **Main Resolution** selected (see chapter 4.6.2.3.).

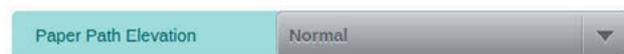
The following limits apply: **150 dpi = 3463 mm**, **200 dpi = 1947 mm**, **300 dpi = 865 mm**, **400 dpi = 324 mm** and **600 dpi = 216 mm**.

The lowermost entry in the list of paper formats may be used to define a non-standard paper format. If selected, two settings fields will appear,



for entering document height and width. Please make sure to respect the "Portrait" rule, meaning that the width has to be less than the height.

#### 4.6.3.1.2. Paper Path Elevation



If the scanner is fitted with option **Straight Through Paper Path Elevation** (see chapter 2.2.5.), then you may use this menu item to select one of four possible elevation levels. The default value **Normal** refers to the state without elevation. The step should be adapted to the thickness of existing Scan material, because just as the material from a certain thickness is too thick to be processed in the normal mode, it can also be too thin for an activated increase to be grasped properly by the paper feed. As this in addition to pure paper thickness also depends on other factors such as weight, surface finish etc. the necessary increasing step can only be determined by tests with scan templates. The maximum possible passage height is checked by testing it with 10 sheets of A4 paper (80g) in Z-fold, inserted in a standard C4 envelope.

Since this option has been developed for handling exceptional document types, its use is subject to the following conditions:

- **Optimized Gap** (see chapter 4.6.4.2.8.) needs to be deactivated.
- **Double Feed Detection** (see chapter 4.6.4.1.) must be inactive.
- **Double Feed Detection** option **Stop at Input** (see chapter 4.6.4.1.2.) must be inactive.
- **Output** option **Current Output to Rear at** (see chapter 4.6.3.3.3.) needs to be active and needs to be set to **Every Scanned Sheet**.

For more information, please see chapter 5.7.6.1.

#### 4.6.3.2. Input



The **Input** screen deals with configuration items aimed at input hoppers and paper input.

The four settings fields on this screen will be discussed in more detail, below.

#### 4.6.3.2.1. Feeder Mode



The **Feeder Mode** is configurable with this menu item. If the scanner is equipped with a Dual Input Hopper (see chapter 2.2.1.), then Feeder Mode will default to **Dual**, a mode only available with this particular input hopper. Once one input hopper has been emptied, Dual will automatically switch over to the other hopper, provided this contains documents to be scanned (see also chapter 5.4.4.). With only one input hopper, the mode **Batch** is set. In this mode, the input tray is in the lowest position. Once a paper stack is inserted and a scan process is started, the input tray is automatically raised so far that the documents can be pulled in. If the input tray is empty, it automatically moves back to its lowest position. If the mode **Manual** is selected, the input tray moves to its uppermost position. In this mode, single sheets or small stacks can be processed (up to 25 pages) without the input tray being raised at each Scanstart and lowered afterwards.

#### 4.6.3.2.2. Separation



Via this option the Separation Roller can be deactivated in the input area (see chapter 5.3.), which possibly separates the documents, adhering to one another in an activated state.

#### 4.6.3.2.3. Feeder Capacity



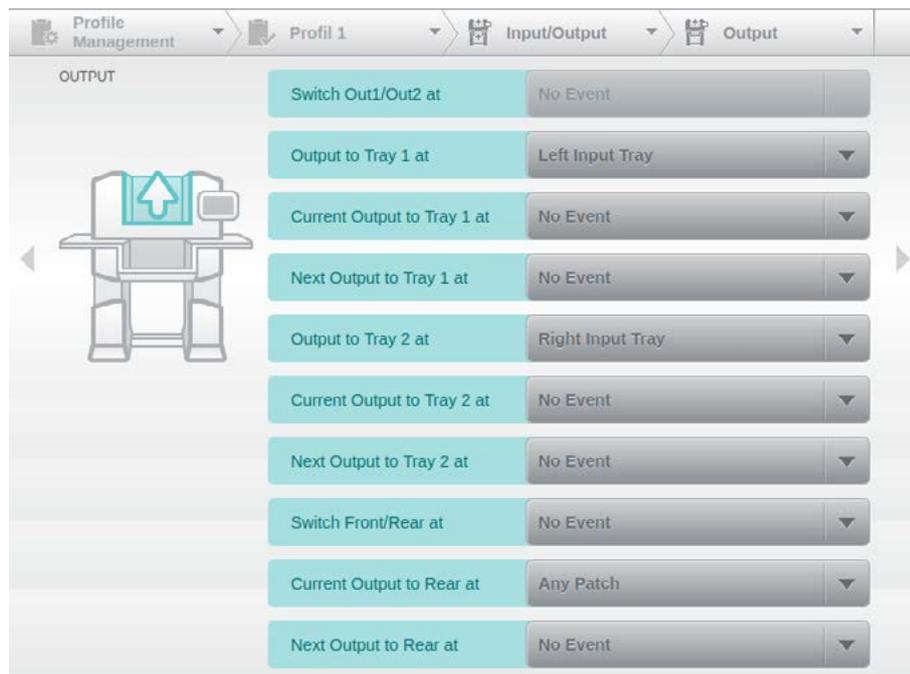
Via the slider control of this menu item, the capacity of the Input Tray can be reduced in percentage when the full feed height is not required. The Input Tray is in its lowest position when loading a profile with reduced feed height until the first scan process has been launched. When using a Dual Input Hopper, this setting applies to both Input Trays.

#### 4.6.3.2.4. Camera Threshold



This value determines the brightness threshold used by the camera to distinguish between scan background and incoming documents. As a basic rule, the darker documents are, the lower this value needs to be. Default value is 50.

### 4.6.3.3. Output

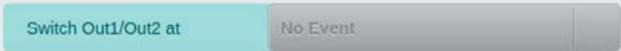


The settings on this screen allow event-driven control of the **Output** of scanned documents, i.e. they determine which output tray is used. For each field, you may select a suitable trigger by choosing an item from the event list (see chapter 4.2.3.).

The mask pictured here is graphically edited, because it exceeds the display area of the touchscreen.

All fields relating to a Tray 2 are available only if the scanner is equipped with a 2nd Output Hopper (see [chapter 2.2.3](#)). The operation of each of the fields will be discussed in more detail, below.

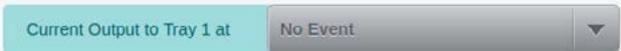
#### 4.6.3.3.1. Switch Out1/Out2 at

 This setting will switch back and forth between the two front output hoppers, whenever the selected event occurs. The typical trigger used in combination with a Dual Input Hopper (see [chapter 5.4.4](#)) is **Switch Input Tray**, which also includes a special handling feature: Whenever the output hoppers are switched because of a change in input trays, the previous (*and now full*) output hopper is automatically lowered, making it easy to remove scanned documents while the other hopper is already filling up. The empty output hopper will return to its top position whenever it is activated next. If setting **Switch Out1/Out2 at** is unavailable (*grayed out*), one of the related choices described in the following chapter must be in use – these settings are mutually exclusive.

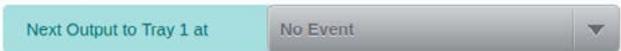
#### 4.6.3.3.2. Output to Tray 1/2 at

 These two settings will perform an immediate switch to the respective output tray, whenever their selected events occur. If the scanner is fitted with a Dual Input Hopper (see [chapter 2.2.1](#)), the default settings shown here will cause documents from the left input tray to be ejected into output tray 1 and documents from the right input tray to be ejected into output tray 2. This is accompanied with the special handling feature described in the previous chapter. If both settings are unavailable (*grayed out*), setting **Switch Out1/Out2 at** as described in the previous chapter must be in use – these settings are mutually exclusive.

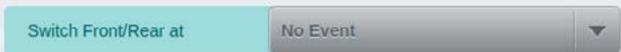
#### 4.6.3.3.3. Current Output to Tray 1/Tray 2/Rear at

 This setting is available for each of the possible output hoppers (*1/2/Rear*) and performs a temporary switch of output path for the document causing the trigger event. All following documents will be routed to the original hopper. A typical use for these settings would be e.g. to combine **Current Output to Rear at** with **Any Patch**. This setting would ensure that all patch codes are sorted to the rear output hopper (see [chapter 5.7.6](#)). If all documents need to be ejected to the rear hopper, you would have to set **Current Output to Rear at** to **Every scanned Sheet**.

#### 4.6.3.3.4. Next Output to Tray 1/Tray 2/Rear at

 This setting, just like the previously described settings, is available for each of the possible output hoppers and will also perform a temporary switch of output path. However here, the switch is performed for the document **following** the trigger event. After that, output will return to the original hopper.

#### 4.6.3.3.5. Switch Front/Rear at

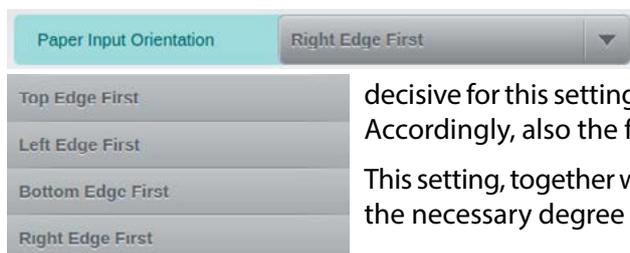
 As with the topmost setting on this screen, this setting will switch back and forth between two output hoppers, whenever the selected event occurs. This time, however, the switch is performed between the rear (see [chapter 5.7.6](#)) and a front output hopper. If the scanner is fitted with a second output tray (see [chapter 2.2.3](#)), the most recently used front output tray will be used, for this purpose.

### 4.6.3.4. Orientation



The five options on this screen determine how documents are placed into input hoppers and in which orientation the resulting images will be transferred. The scanner will use this information to apply image rotation, whenever necessary.

#### 4.6.3.4.1. Paper Input Orientation



The **Paper Input Orientation** specifies how the documents are laid in the input tray. What is decisive for this setting is the sheet edge facing towards the paper input. Accordingly, also the four selection possibilities.

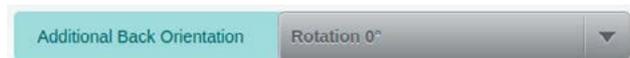
This setting, together with the following **Output Image Orientation** forms the necessary degree of rotation for the output image.

#### 4.6.3.4.2. Output Image Orientation



**Output Image Orientation** allows a choice of **Portrait** or **Landscape**. In combination with whatever has been specified for **Paper Input Orientation**, above, this will determine the amount of rotation applied to output images.

#### 4.6.3.4.3. Additional Back Orientation

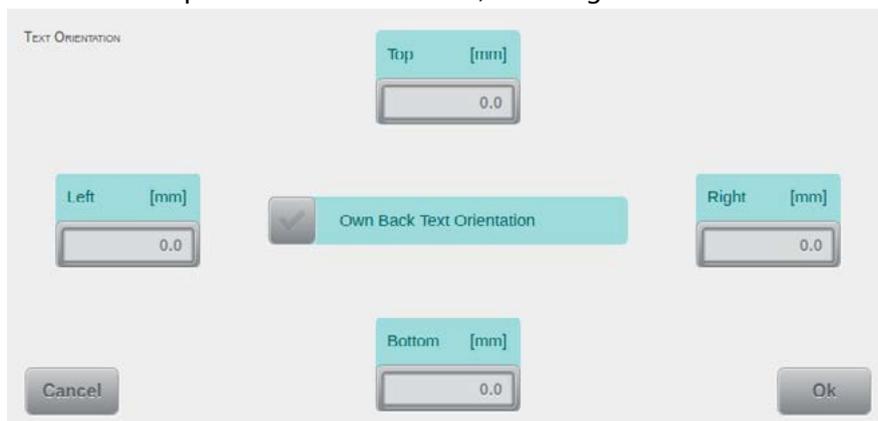


If images on rear sides need to be differently orientated as images on the front, this setting can be used to apply additional image rotation, in 90° increments.

#### 4.6.3.4.4. Text Orientation



Activating this option will check if images rotated according to settings **Paper Input Orientation** and **Output Image Orientation** now also have upright and recognizable text on them. Whenever this is not the case, the image will be rotated in 90° increments and the search for recognizable text will then be repeated. Once successful, the image will be saved in this orientation. Please note that

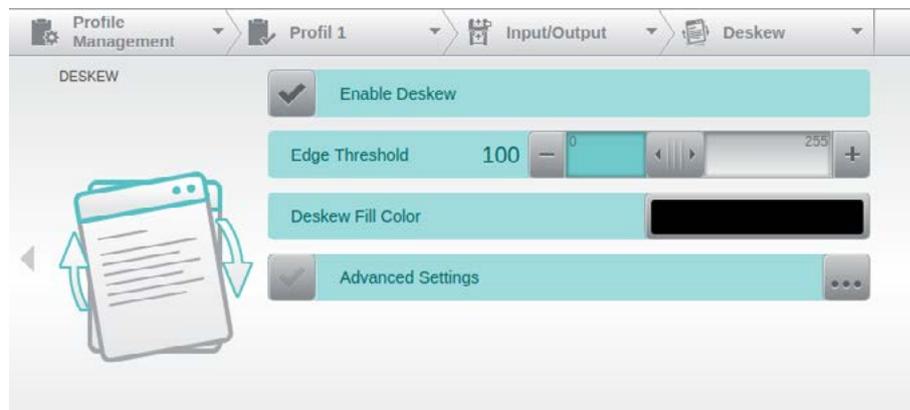


this option will only work if the images contain Latin-script text in sufficient amounts and size.

Use the settings screen to the left to define margins for each of the four edges. These areas will be excluded from checks for text orientation. Also, you may enable a separate check for text orientation on the rear

of images, which would otherwise be rotated according to the front.

#### 4.6.3.5. Deskew



In the **Deskew** screen the skewness correction for the output images is activated and configured.

In addition to straightening up images, the Deskew function will also perform black border removal. Furthermore, it will automatically extend the scan area, if

necessary, in order to avoid cropping document corners when images need to be rotated by larger degrees. This mechanism ensures that scanning can be performed without image loss at rotation angles of up to 22°, with the scanning resolution set to 300 dpi. Higher scanning resolutions will reduce this range. With **Deskew** turned off, the scanning area will be strictly limited to the document format specified.

##### 4.6.3.5.1. Edge Threshold



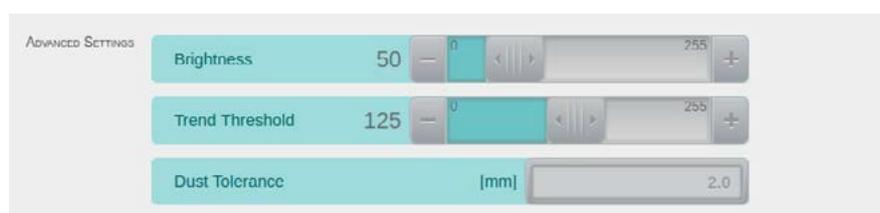
Prior to deskewing and black border removal, the document's edges need to be detected. This is done by comparing brightness levels of scan background and document. Use the slider to set the desired threshold level. The default value of 100 reliably work with most common scan templates. With unusually dark documents lowering the threshold value and when using Gamma Correction (see [chapter 4.6.2.1.2.](#)) increasing the threshold value will help very often.

##### 4.6.3.5.2. Deskew Fill Color



Although the **Deskew** function will automatically extend the scan area in order to reduce the chance of lost corners, this might still happen in extreme cases. Resulting empty image areas may be filled with any desired color. Tapping the color field will open a color picker dialog (see [chapter 4.2.2.](#)) to define the desired fill color. Please note that this function will not fill areas which were already missing from the physical document (*such as torn or cut off areas*).

##### 4.6.3.5.3. Advanced Settings



If option **Advanced Settings** remains unchecked, all its parameters will still be applied, but with default values. The default values for the two slide controls at the top are dynamically controlled by the setting for **Edge Threshold** (see [chapter 4.3.1.5.1.](#)) and will change accordingly.

**Brightness** specifies the threshold above which edge detection will commence and is set at 50% of the value for Edge Threshold. **Trend Threshold** specifies the rate of change which the edge detection value needs to reach, after it has exceeded the Edge Threshold level, before an object is considered to be an edge. Trend Threshold defaults to 25% above the Edge Threshold value. Under normal circum-

stances, adjustment of these two dynamic threshold values is unnecessary. The lowermost setting on this screen specifies the **Dust Tolerance**, during edge detection. By default, a detected object needs to be longer than 2 mm before it is considered to be an edge.

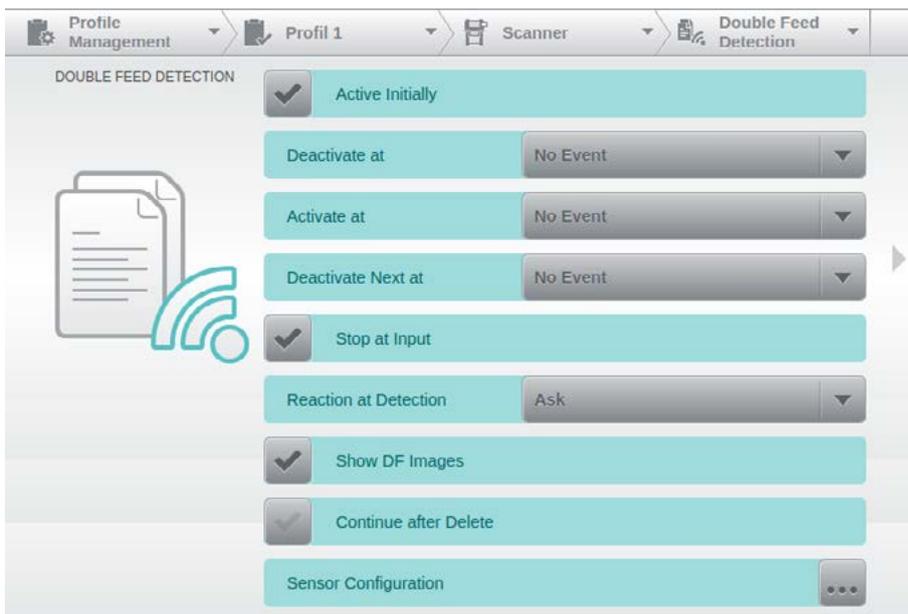
**Please note:** Once you activate (checkmark) **Advanced Settings**, in order to change the setting for Dust Tolerance, the two other threshold values will no longer be adjusted automatically.

#### 4.6.4. Scanner



The setting group **Scanner** provides the access to the various internal detection and control functions via four menu items.

##### 4.6.4.1. Double Feed Detection



Use this screen to configure **Double Feed Detection**. The following discussion of configuration items includes various combinations of activated and deactivated settings, how Double Feed Detection will impact the scan process and how to properly set up the ultrasonic sensors.

The mask pictured here is graphically edited, because it exceeds the display area of the touchscreen.

##### 4.6.4.1.1. Activate/Deactivate



event list (see chapter 4.2.3.).

Apart from using field **Active Initially** to fundamentally turn **Double Feed Detection** on or off, scan-time-events may also be used to control its activation or deactivation. It is even possible to deactivate Double Feed Detection for the sheet following the sheet triggering the event. For each of the three fields shown, you may select a suitable trigger by choosing an item from the

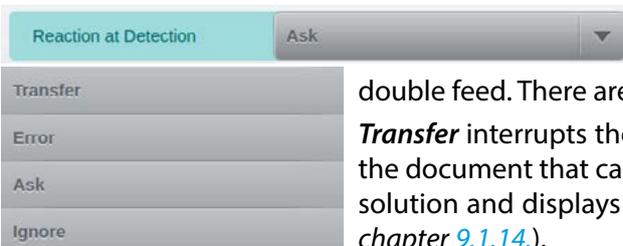
#### 4.6.4.1.2. Stop at Input



This option is activated by default. It ensures that paper input is stopped and retained in the feed area of the scanner, whenever Double Feed Detection occurs within the first 2 cm of the offending paper intake. This feature makes it possible to simply retract and re-scan such documents, without having to open up the scanner, first.

This option is activated by default. It ensures that paper input is stopped and retained in the feed area of the scanner, whenever Double Feed Detection occurs within the first 2 cm of the offending paper intake. This feature makes it possible to simply retract and re-scan such documents, without having to open up the scanner, first.

#### 4.6.4.1.3. Reaction at Detection



Using the field **Reaction at Detection** it is selected how the scanner responds to a detected double feed. There are the following four options to select from.

**Transfer** interrupts the scanning process, but transfers the image(s) of the document that caused the Double Feed Detection to the scanning solution and displays an error on the touchscreen of the scanner (see chapter 9.1.14.).

**Error** interrupts the scanning process and displays the same error message. All images of the document that caused the double feed detection are discarded.



**Ask** (=Default) interrupts the scanning process and opens an additional small screen, on the scanner's touchscreen. Two choices are available here, you may either **Delete** or **Transfer** the images which caused the double feed condition.

**Ignore** prevents a response to the Double Feed Detection. The scanning process continues. In spite of this, the resulting Double Feed Detection event may still be used as a trigger for other functions.

#### 4.6.4.1.4. Show DF Images



If option **Ask** has been selected (see above), then this option will expand the dialog shown in response to a Double Feed Detection by additionally displaying all images for the offending document.



Because of the size and resolution of the display, this will very frequently be sufficient to identify the cause of a Double Feed Detection, without any further inspection of the actual document, which would have to be retrieved from the output bin.

#### 4.6.4.1.5. Continue after Delete



... further modifies the chain of events after choosing **Delete** (in combination with the **Reaction at Detection** setting **Ask** from above). If **Continue after Delete** is inactive (default), then the current input tray will be automatically lowered, allowing you to replace the documents which caused the issue.



A message will appear on the scanner's touchscreen, offering to proceed with scanning. Tap **Continue** to do so. If **Continue after Delete** is active, then scanning will continue directly after having selected **Delete**. Therefore, in this case, offending documents need to be returned to the input tray before pressing **Delete**.

#### 4.6.4.1.6. Sensor Configuration

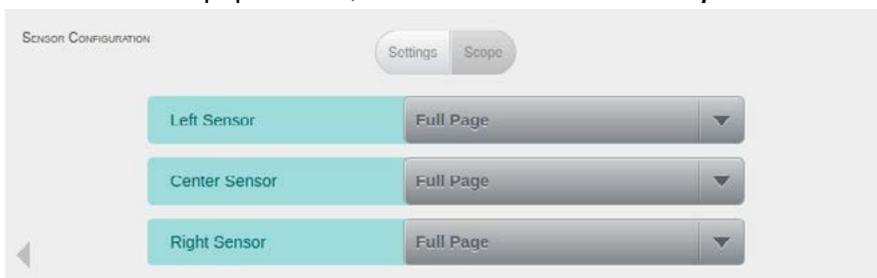


This setting will launch two setup screens required for the configuration of the three ultrasonic sensors performing Double Feed Detection. On the **Settings** screen, the lowermost field **Number of Verifications**



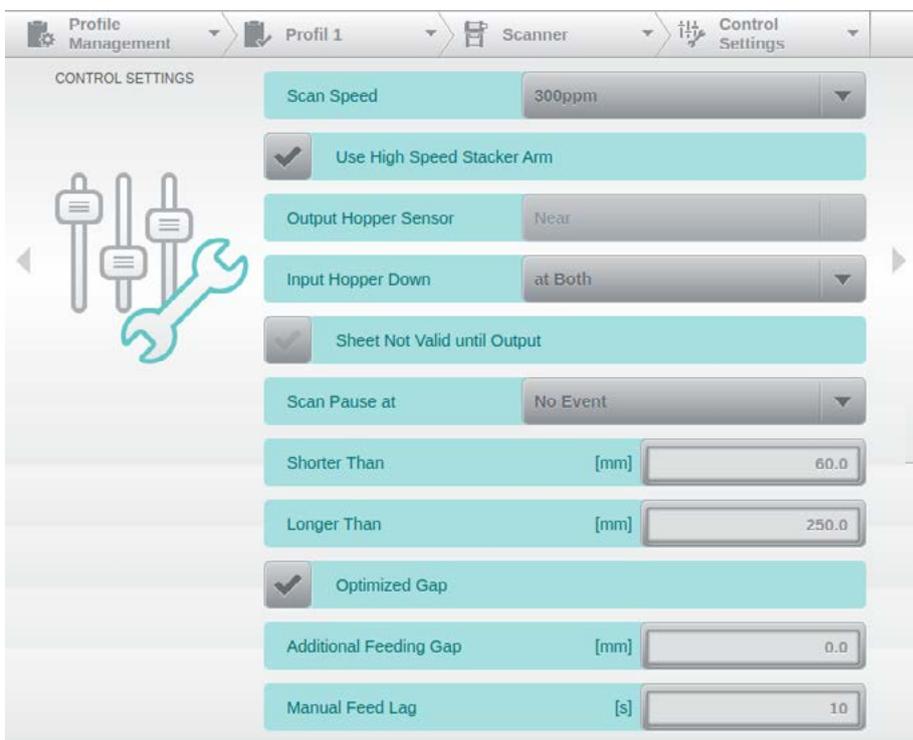
**of Verifications** specifies how often the sensing process will be repeated, in quick succession, in order to avoid false alerts. Please note that a value of 3 will effectively override the **Stop at Input** function

(see chapter 4.6.4.1.2). The upper two fields, **Area Start** and **Area Stop**, define a reference zone along the direction of paper travel, which is utilized on the **Scope** screen. For each of the three ultrasonic



sensors, the three fields on the **Scope** screen specify if detection will be performed along the **Full Page**, inside or outside the reference zone specified above (**Inside Area / Outside Area**), or not at all (**Disabled**)

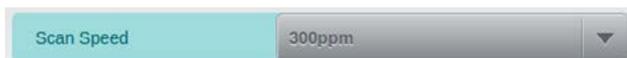
#### 4.6.4.2. Control Settings



The setting group **Control Settings** contains various machine-specific settings which massively influence the scanner's behavior during day-to-day operation. They have been added in order to create an optimized work-environment leading to maximum efficiency. In Abhängigkeit vorhandener Optionen, kann die Anzahl vorhandener Punkte variieren.

The mask pictured here is graphically edited, because it exceeds the display area of the touchscreen.

#### 4.6.4.2.1. Scan Speed



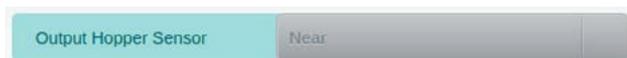
Use this control to throttle the scanner's page throughput. The method for achieving this reduction depends on the type of paper output used (see [chapter 5.7.3](#)). If a **High Speed Stacker Arm** (see [below](#)) is installed and active, throughput reduction will be achieved by increasing the gaps between documents. This is necessary in order to sustain the high paper velocity required for properly piling output documents, below the stacker arm. Without the High Speed Stacker Arm, throughput reduction is achieved by actually reducing paper velocity, to the speed specified here. Only speed settings supported by the deployed scanner model can be selected.

#### 4.6.4.2.2. Use High Speed Stacker Arm



This configuration item is only available if the optional **High Speed Stacker Arm** (see [chapter 5.7.2](#)) has been installed. This option is turned on by default, in which case High Speed Output Mode is used and the stacker arm needs to be folded downwards. As soon as this option is turned off, the Stack Height Sensor (see [below](#)) in the output tray will become active and Open Output Mode is used. In this case, the stacker arm needs to be folded upwards.

#### 4.6.4.2.3. Output Hopper Sensor Range



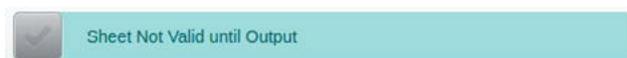
This configuration item only has an effect if the optional **High Speed Stacker Arm** (see [chapter 5.7.2](#)) has not been installed, or if it has been deactivated (see [above](#)). Use this setting to modify the detection range of the Stack Height Sensor. **Near** (default) will detect up to distances of about **80 mm**, whereas **Far** is intended for special applications and will extend the detection range to as much as **160 mm**. The Stack Height Sensor is used during Open Output Mode (see [chapter 5.7.3](#)) and will control the automatic lowering of the output tray, which would otherwise be managed by the sensor system of the High Speed Stacker Arm.

#### 4.6.4.2.4. Input Hopper Down



This option determines the situation which causes the input trays to be lowered by the amount specified in field **Input Hopper Down** on the **Scanner Settings** screen (see [chapter 4.7.5](#)), in main menu **Administration**. Use this setting to select one of four scenarios: **Pause** will lower the input tray whenever the scanning process is manually interrupted (see [chapter 5.4.1](#)), will do so only if a scanning error has occurred. Selecting **Both** (the default setting) will cause the tray to be lowered in either of the previous cases, **Never** will prevent automatic action. This option is only of consequence if the Feeder Mode (see [chapter 4.6.3.2.1](#)) is not set to **Manual**.

#### 4.6.4.2.5. Sheet Not Valid until Output

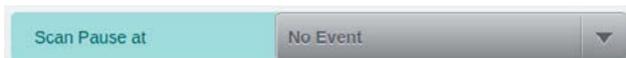


If this option is selected, only images from documents which have already been ejected into one of the output trays will be transmitted, if a scanning error occurs (e.g. a paper jam). Any images from documents still situated in the paper path will be discarded.

#### **CAUTION!**

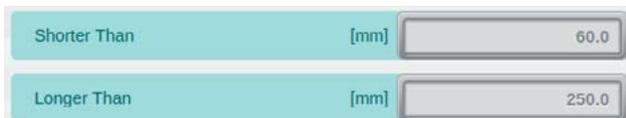
Because of the rather short paper path, it may occasionally happen that images from a document which has already been ejected into the rear output tray are also discarded because the document scanned prior to that is still travelling along its longer paper path.

#### 4.6.4.2.6. Scan Pause at



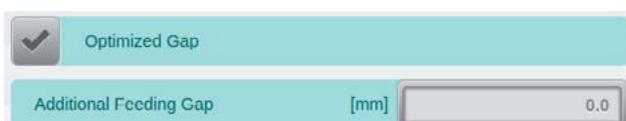
Select an event which will automatically interrupt the scanning process. Since only events can be used which have occurred before the currently scanned image, a narrowed down version of the event list (see chapter 4.2.3.) is presented here.

#### 4.6.4.2.7. Shorter Than/Longer Than



Use these two fields to set the trigger points for the two events **Shorter Than** and **Longer Than**. Possible length values range from **60 mm** up to **500 mm**. Please note that values **above 270 mm** may only be used in combination with the **Scan Pause at** function, described above.

#### 4.6.4.2.8. Optimized Gap/Additional Feeding Gap



**Optimized Gap** is activated by default and will ensure the highest possible document throughput. Deactivating this option will prevent the optical sensors in the scanner's input section from optimizing document gaps. This might be advisable if there are increased paper jams in the scanner's input section (see chapter 9.2.7.) when processing heavy duty documents, and might also help when scanning glossy documents. However, this setting will cause broader gaps between documents, which in turn will lower document throughput. Please note that for occasional issues with difficult and glossy documents, you may use the special control key **Opt. Gap Next Off** (see chapter 4.6.1.3.).

If deactivating gap optimization still produces unsatisfactory results or if there are possible issues with paper output when using very light paper qualities, it may be of help to further increase the gap between documents. Use field **Additional Feeding Gap** to extend the gap by up to **100 mm**.

#### 4.6.4.2.9. Manual Feed Lag



This setting specifies the grace period available for placing additional documents in the active input tray, before having to re-start the scanning process. The scanner will send an out-of-paper notification to the attached scan-software once this period has passed.

#### 4.6.4.3. Patch Decoder Settings



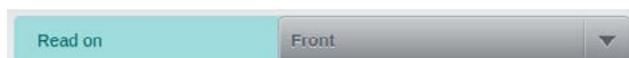
This setting mask contains all the necessary settings to define the patch code detection.

The mask pictured here is graphically edited, because it exceeds the display area of the touchscreen.

Internal patch code detection is performed at two different locations, along the paper path: Patch codes required for controlling the Im-

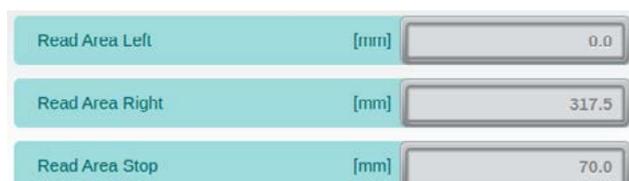
printer Front or for deriving any of the variables used by the Imprinter Front are detected by optical sensors, since this information is required at an early stage. A second iteration of patch code recognition occurs later, through the scanner's cameras. Information that a patch code has been recognized is passed along with respective images, as metadata. Such images are also marked with a special symbol, in the sheet information area of the scan screen (see chapter 4.3.1.).

##### 4.6.4.3.1. Read on



The first item on this screen determines which side of an incoming document is searched for patch codes. Please note that this setting **only** applies to patch code detection performed by the scanner's cameras. Besides **Front**, which is the default setting, you may also choose **Back** or **Both**. Selecting **None** will turn off patch code detection by camera, entirely

##### 4.6.4.3.2. Read Area



These three fields specify the detection area used by the cameras, when searching for patch codes. The upper two values limit the detection area horizontally and are both entered as distances from the left edge of the scanning area. Within these horizontal limits, the detection area is internally split up into 16 strips of even width. Patch codes are only considered valid if they are detected in at least two of these strips. Therefore, whenever narrow patch codes are used (e.g. when processing labels), it is strongly recommended to adjust the detection area in order to maintain reliable patch code detection. The default values shown to the left (0 mm and 317.5 mm) are also the minimum and maximum values allowed. **Read Area Stop** specifies the vertical extent of the detection area, for patch codes located on the **front** side of documents. Generally, patch codes are only considered valid if they are detected within the first 70 mm of a front side image. If conflicting image data within the detection area will cause false detection, this range can be reduced appropriately. As opposed to that, the detection area on the **back** of documents is fixed, at a maximum length of 35 mm.

##### 4.6.4.3.3. Threshold



Use this adjustment option for detecting patch codes with less than optimal print quality. The default value of 100 will provide adequate detection with standard print qualities, whereas higher threshold values will also accept patch codes with reduced print density.

#### 4.6.4.3.4. Required Tracks at Input



Whereas patch code detection by camera is based on 15 virtual strips evenly spaced across a variable detection area (see above), early patch code detection during paper intake is limited to the five optical sensors mounted in the paper input path. This setting determines how many of these sensors need to report patch code data, before a patch code is finally considered valid. Possible values range from 0 to 5, with 0 effectively turning off early patch code detection.

#### 4.6.4.3.5. Verified Detection at Input

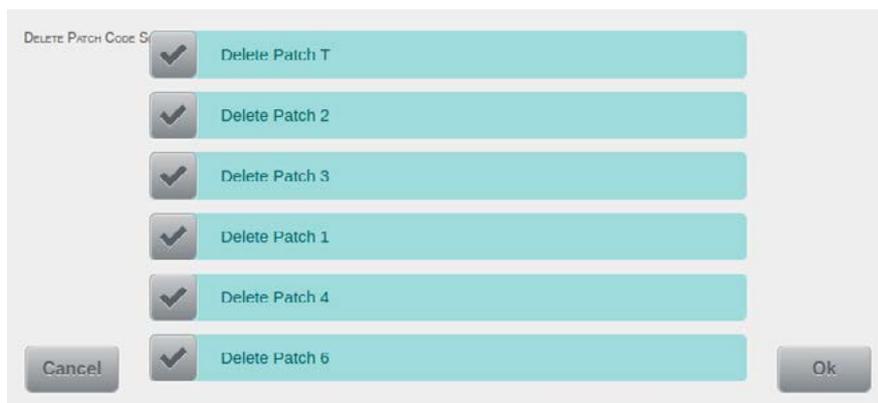


If early patch code detection is required for the control of the Imprinter Front, this setting can be used to force additional verification, through the front-image camera. In this case, any documents following a patch code detected by optical sensors will be held back at the paper intake, until the camera has confirmed this detection result. If a patch code cannot be recognized here, an appropriate error message (see chapter 9.2.28.) is raised and scanning will be interrupted. Verified Detection at Input will reduce the risk of invalid imprints on any documents causing erroneous patch code detection.

#### 4.6.4.3.6. Delete Patch Code Sheets

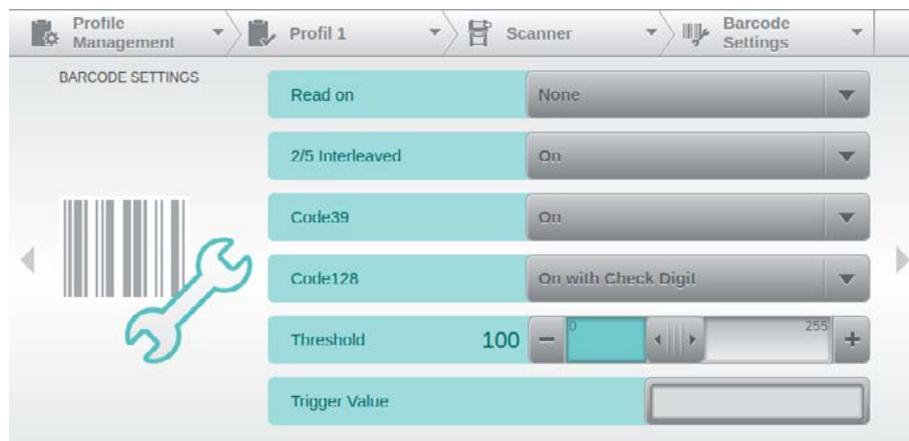


Checking this option will delete all images belonging to a patch code sheet detected. Such deletion of images is highlighted with a red X, in the **stream information** area of the scan screen (see chapter 4.3.1.1.).



The exact patch code type(s) to be deleted may be specified in the respective selection screen. You may choose one, multiple or all of the patch code types listed. By default, all patchcode types are checked, however, patchcode deletion itself is disabled.

#### 4.6.4.4. Barcode Settings

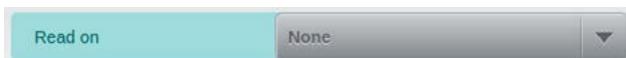


This screen contains all settings required for defining scanner-internal bar code detection. Bar code detection happens at scan time and is achieved by both scanner cameras analyzing incoming images on a per-row basis, which also limits detection to linear (1D) bar codes. The primary goal of internal bar code detection is to provide control information for the scan-process itself, in the shape of bar code events. Only one bar code per image is accepted. If more than one bar code is detected on an image, only the bar code with the most amount of lines will be used (i.e. the highest bar code).

Only one bar code per image is accepted. If more than one bar code is detected on an image, only the bar code with the most amount of lines will be used (i.e. the highest bar code).

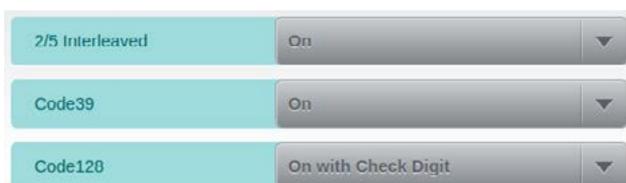
All information about recognized bar codes is passed along with their respective images, as metadata. Such images are also marked with a special symbol, in the sheet information area of the scan screen (see chapter 4.3.1.).

#### 4.6.4.4.1. Read on



As is the case with patch code detection (see chapter 4.6.4.3.1.), the first item on this settings screen determines which side of an incoming document is searched for bar codes. Again, you may choose between **Front**, **Back**, **Both** or **None**. However, **None** is the default setting, in this case. In order to be recognized, bar codes need to be placed within the first **140 mm** on front document sides. Bar code detection on reverse sides is limited to the first **35 mm** of the image.

#### 4.6.4.4.2. Barcode Types



These three fields determine whether the scanner is supposed to search for the respective bar code type (**On**) or ignore it (**Off**). You may also choose to have the bar code checksum verified (**On with Check Digit**), on the basis of the most common checksum algorithm for that bar code

type. In the case of Code 128, On with Check Digit has been made the default, since this barcode type is most frequently used with its checksum enabled. If checksum verification fails, an appropriate error message (see chapter 9.2.39.) is raised and scanning will be interrupted. Since only barcodes with up to 16 characters in length are accepted here, bar code values longer than this will also produce an error message (see chapter 9.2.40.) and scanning will be interrupted.

#### 4.6.4.4.3. Threshold



As is the case with patch code detection (see chapter 4.6.4.3.3.), you may adjust **Threshold** for

detecting bar codes with less than optimal print quality. The default value of 100 will provide adequate detection with standard print qualities. Raising the threshold value will improve recognition of bar codes with reduced print density, lowering the value may help in cases of more delicate bar codes, with narrow lines.

#### 4.6.4.4.4. Trigger Value



Use this field to compose a **Trigger Value**, which will distinguish bar codes complying with this

value from other, unwanted bar codes. In order to set a Trigger Value, use the keypad to enter

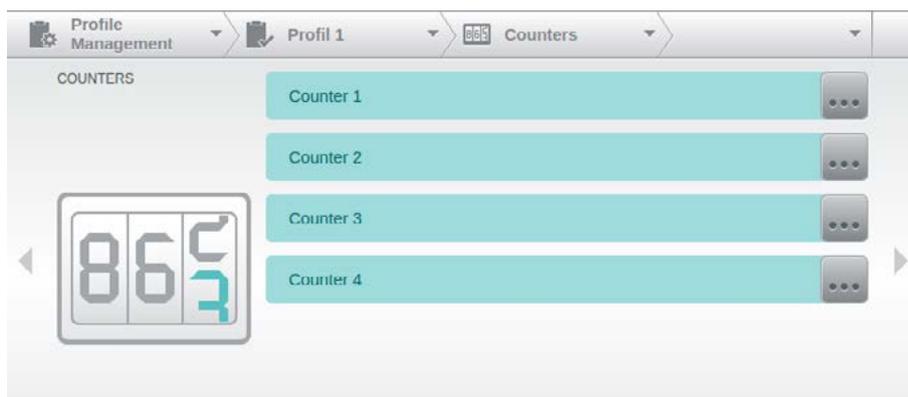
- a fixed alphanumeric string (e.g. *Invoice* or *2000*)
- a number range (a start and an end value joined by a hyphen, e.g. *1000-1100*)
- a wildcard expression (some fixed alphanumeric prefix followed by an asterisk, e.g. *ABC\** or *123\**).  
The prefix is always enforced, but the asterisk will allow any amount of arbitrary alphanumeric characters to follow.

For added flexibility, you may also combine several definitions, by separating them with a comma, and you may even mix trigger value types, within one Trigger Value (e.g. *1000-1999, 3000, 4000, 8000-8999*).

**Note:** If a string needs to contain a comma (*Code 128 only*), you will need to enclose the entire string in quotation marks.

Successful validation of a bar code is signaled by an entry in the Event list (see chapter 4.2.3.). It is called **Barcode triggered** and can be used to control other functions. Also, if a barcode complies with the **Trigger value** specified here, image icons will be marked with a turquoise barcode symbol on the scan screen (see chapter 4.3.1.).

## 4.6.5. Counters



The setting group **Counter** has four menu items access to the configuration of the four available scanner counters.

### 4.6.5.1. Counter Settings



Since the settings details are the same for all counters, only **Counter 1** will be discussed, here.

The mask pictured here is graphically edited, because it exceeds the display area of the touchscreen.

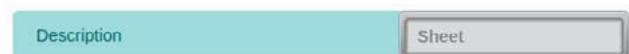
#### 4.6.5.1.1. Counter Value



The top setting **Use Values of** on this screen will allow you to copy the **Counter Value**, in the field below, from a different scanning profile. Selection is through a dynamic drop-down list which will display all profiles available on this scanner. The default entry is **Own Profile** (<profile name>)

and refers to the currently active profile. **Counter Value** will return the current count, however, this field may also be used to assign a new counter value. Depending on the **Count Mode** setting, the Counter Value will either refer to the last sheet scanned (**Current**) or to the next sheet to be scanned (**Next**).

#### 4.6.5.1.2. Description



Use this field to give this counter a name. The name is used on the scan screen (see chapter 4.3.1.) for labeling respective counter values. If **Edit counters** (see chapter 4.6.1.3.) has been added as one of the Quick-Access Buttons, then the counter descriptions will be used there, too.

### 4.6.5.1.3. Counter Increment

The drop-down list at the top and the entry field **Increment Value** below specify the count events and the increments used by this counter. You may choose a suitable trigger event from the Event List (see chapter 4.2.3.).

### 4.6.5.1.4. Counter Reset

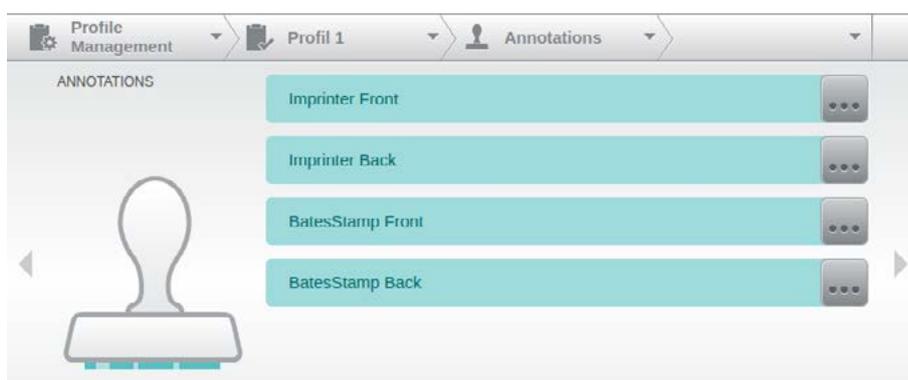
The drop-down list at the top and the entry field **Reset Value** below specify the reset event and the starting value used by this counter. You may choose a suitable trigger event from the Event List (see chapter 4.2.3.).

### 4.6.5.1.5. Trigger Value

Entering any number larger than zero will set this value as the **Trigger Value**, for this counter.

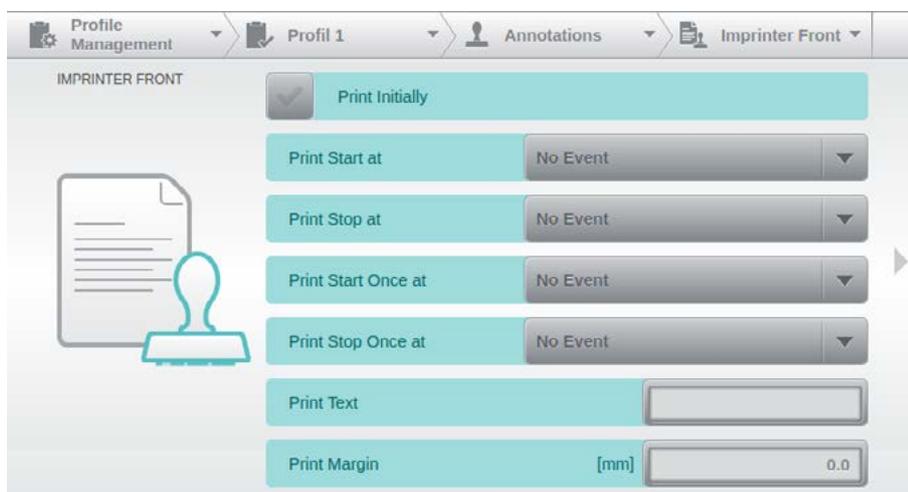
Whenever the counter reaches this value, it will produce a trigger event. Such trigger events will appear in the event list (see chapter 4.2.3.) as **Counter X triggered** to use it at other scanner functions.

## 4.6.6. Annotations



The setting group **Annotation** includes the configuration of the two Imprinters and the digital image stamps for front and rear side images. The button at the end of each line will open the corresponding settings screen. These screens will be described in more detail, below.

### 4.6.6.1. Imprinter Front/Back

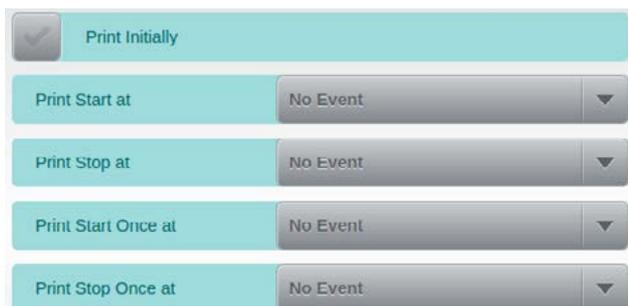


The setting screen contains all settings for configuring the Imprinter.

The mask pictured here is graphically edited, because it exceeds the display area of the touchscreen.

Since the possible settings for both imprinters are identical, only the options for the Imprinter Front will be explained, here.

### 4.6.6.1.1. Enable/Disable Imprinter



Checking the top setting, **Print Initially**, will turn on the printing function at the start of each scan-process. The next four settings operate independently of the top setting and allow one-time or permanent printer activation and de-activation, each of them triggered by an associated event. You may choose a suitable trigger event from the Event List (see chapter 4.2.3.). Apart from these four automated controls,

you may also manually start and stop imprinters by first programming and later tapping one of the Quick-Access Buttons (see chapter 4.6.1.3.), located on the scan screen.

### 4.6.6.1.2. Print Text



Tapping this entry field will open up an on-screen keyboard which you may use to enter the desired printer text, including a multitude of readily available variables and attributes (see further below, for details).

As soon as a printer text has been defined, the presence and condition of an ink cartridge (see chapter 8.3.) will be checked, for the respective imprinter, whenever scanning starts. This is done because afterwards, printing may happen at any time, either triggered by an event or manually started

%CNT1%	Counter 1	%MONTH%	Month name	%CD04%	4 pix char distance
%CNT2%	Counter 2	%DD%	Day DD	%CD05%	5 pix char distance
%CNT3%	Counter 3	%NMC2%	2-digit leading 0	%PT1%	1 pix width
%CNT4%	Counter 4	%NMC3%	3-digit leading 0	%PT2%	2 pix width
%SID%	Sequential ID	%NMC4%	4-digit leading 0	%PT3%	3 pix width
%TIME1%	Time hh:mm	%NMC5%	5-digit leading 0	%PT4%	4 pix width
%TIME2%	Time hh:mm:ss	%NMC6%	6-digit leading 0	%PT5%	5 pix width
%TIME3%	Time hh:mm:ss.sss	%NMC7%	7-digit leading 0	%PD1%	Low density (HD)
%TIME4%	Time hh:mm AM	%NMC8%	8-digit leading 0	%PD2%	Medium density (HD)
%TIME5%	Time hh:mm:ss AM	%NMC9%	9 digit leading 0	%PD3%	High density (HD)
%TIME6%	Time hh:mm:ss.sss AM	%NMC10%	10-digit leading 0	%CH1%	1x char height (HD)
%TIME7%	Time hhmm	%CD_%	Start CD Calculation	%CH2%	2x char height (HD)
%TIME8%	Time hhmmss	%_CD%	Stop CD Calculation	%CH3%	3x char height (HD)
%TIME9%	Time hhmmsssss	%CD25%	BC 2/5 CheckDigit	%CH4%	4x char height (HD)
%DATE1%	Date DD.MM.YYYY	%CD39%	BC 39 CheckDigit	%BCN%	BC narrow (HD)
%DATE2%	Date DD.MM.YY	%CD128%	BC 128 CheckDigit	%BCM%	BC medium (HD)
%DATE3%	Date MM/DD/YYYY	%CD4_8%	4578 CheckDigit	%RCW%	RC wide (HD)
%DATE4%	Date MM/DD/YY	%LSON%	Landscape on	%BC25%	Start BC Code2/5 (HD)
%DATE5%	Date DDMYY	%LSOFF%	Landscape off	%BC39%	Start BC Code39 (HD)
%DATE6%	Date MMDDYY	%USD%	Upside Down	%BC128%	Start BC Code128 (HD)
%DOY%	Day of Year DDD	%CD00%	0 pix char distance	%RCS%	Stop RC (HD)
%CC%	Century CC	%CD01%	1 pix char distance	%LF%	Line Feed (HD)
%YY%	Year YY	%CD02%	2 pix char distance		
%MM%	Month MM	%CD03%	3 pix char distance		

by one of the Quick-Access Buttons.

Between the entry field **Print Text** and the keyboard, an area will appear where a list of all available print variables and print attributes can be scrolled (full list to the left). Variables and attributes may either be inserted at the cursor position by simply tapping them. Entries from the beginning of the list up to and including any Check Digits in the second column are variables, all remaining entries are attributes. To-

wards the end of the list, there are several attributes ending with **(HD)**. These can only be used if the scanner is equipped with an optional Imprinter HD (see chapter 2.2.4.).

#### Print variables

Information can be integrated in the **Print Text** by printing variables that change during the scanning process. Up to **ten different** variables can be specified at all points of the text and be combined with attributes. The following variables are possible for the output of counters, and date/time information:

#### Counter variables:

The four counters are inserted via the variables **%CNT1%**, **%CNT2%**, **%CNT3%** or **%CNT4%**. The scanners Sequential ID by using **%SID%**. If you wish to output these variables with a fixed amount of digits (and possibly with leading zeros) you will need to insert variables **%NMC2%** through **%NMC10%**, **ahead** of any counter or Sequential ID. Otherwise, output will happen without leading zeros, but always in full length.

Here an example using the counter 1 with a value of 123456:

Print text information	Print result	Print text information	Print result
%CNT1%	123456	%NMC6% %CNT1%	123456
%NMC2% %CNT1%	56	%NMC7% %CNT1%	0123456
%NMC3% %CNT1%	456	%NMC8% %CNT1%	00123456
%NMC4% %CNT1%	3456	%NMC9% %CNT1%	000123456
%NMC5% %CNT1%	23456	%NMC10% %CNT1%	0000123456

### Date/time variables:

By specifying the variables **%TIME1%** - **%TIME9%** and **%DATE1%** - **%DATE6%** predefined date and time strings are inserted into the text. The respective format is indicated on the right of the variable keys in the keypad. In addition, the date can be specified in a separate format by variables. Here **%DOY%** stands for the current day of the year, **%CC%** for the century and **%YY%** for the decade, **%MM%** for the month number or **%MONTH%** for the month name and finally **%DD%** stands for the day of the month.

### Check Digits

If you want to have checksums created, then use variables **%CD\_ %** and **%\_CD%** to mark the beginning and end of the character range to be included. Depending on the checksum algorithm used, this range may contain alphanumeric characters or numerals only. You have a choice of three standardized algorithms, all of them originally associated with bar code technology. You may select the desired algorithm by placing the respective variable anywhere within your **Print Text**: Use **%CD25%** to create checksums according to **Modulo 10** with **weighting factor 3**, the method used as standard with bar codes of type 2/5 Interleaved. **%CD39%** will calculate checksums according to **Modulo 43**, which is the method used with bar codes of type Code 39. Finally, **%CD128%** will calculate checksums according to **Modulo 103**, a method used with bar codes of type Code 128. For more information about these algorithms and their prerequisites, please refer to respective expert literature. **Note:** **%CD4\_8%** refers to a proprietary algorithm which will not be elaborated any further, here.

### Print Attributes

...are used to change the appearance of the printed image. They can be specified at all points of the text and apply to the part of the text after the attribute, possibly followed by another attribute of the same kind. The following types of attributes can be selected for the definition of imprinter print:

#### Landscape on/off - Upside Down

defines the print orientation of the font. While **%LSOFF%** represents the default case, **%LSON%** rotates each subsequent character by 90° to the left. **%USD%** (*Upside Down*) gilt dagegen für den gesamten Text und dreht diesen um 180°

#### Spaced characters

can be generated in different spaces by the attributes **%CD##%** whereat CD stands for character distance, thus the character spacing. Via the numerical data behind the distance is specified in pixels. The possible specification goes from the standard **%CD00%** (*no spacing*) to **%CD10%** (*10 pixel spacing*)

#### Wide font

**%PT#%** designate attributes for specifying width font. Via the number specified behind PT, the additional point width is specified. Possible specification goes from Standard **%PT0%** (*normal type*) to **%PT5%** (*extra wide*)

### Print Attributes HD

As mentioned above, towards the end of the list of variables and attributes, there are several attributes ending with **(HD)**, which can only be used with optional Imprinters HD:

#### Low/Medium/High Density (HD)

These three attributes specify print resolution, with a choice of 300 dpi (**%PD1%**), 600 dpi (**%PD2%**) or 1200 dpi (**%PD3%**). Place just one of these attributes at the beginning of the printer text. If none of these attributes is used, printing will be performed with a default resolution of 300 dpi. Please note that selecting higher resolutions will lead to increased ink consumption.

**Character Height / Line Feed(HD)**

In opposed to the standard imprinter, the HD version is capable of printing up to **four** lines of text, simultaneously. The HD version is even capable of printing **individual** lines at different line heights, provided the overall height does not exceed that of four standard lines. If line height is not specified, text will be printed at standard height. By placing attributes **%CH1%** through **%CH4%** (*CH=character height*) at the beginning of a line, a specific line height may be selected. For each new line triggered by **%LF%**, a different line height can be chosen. The following combinations of simultaneously printed lines and line heights are possible:

- Up to four lines at standard height
- Up to two lines at double height
- Two lines at standard height and one line at double height
- One line at triple height
- One line at standard height and one line at triple height
- One line at quadruple height

**Barcode Print (HD)**

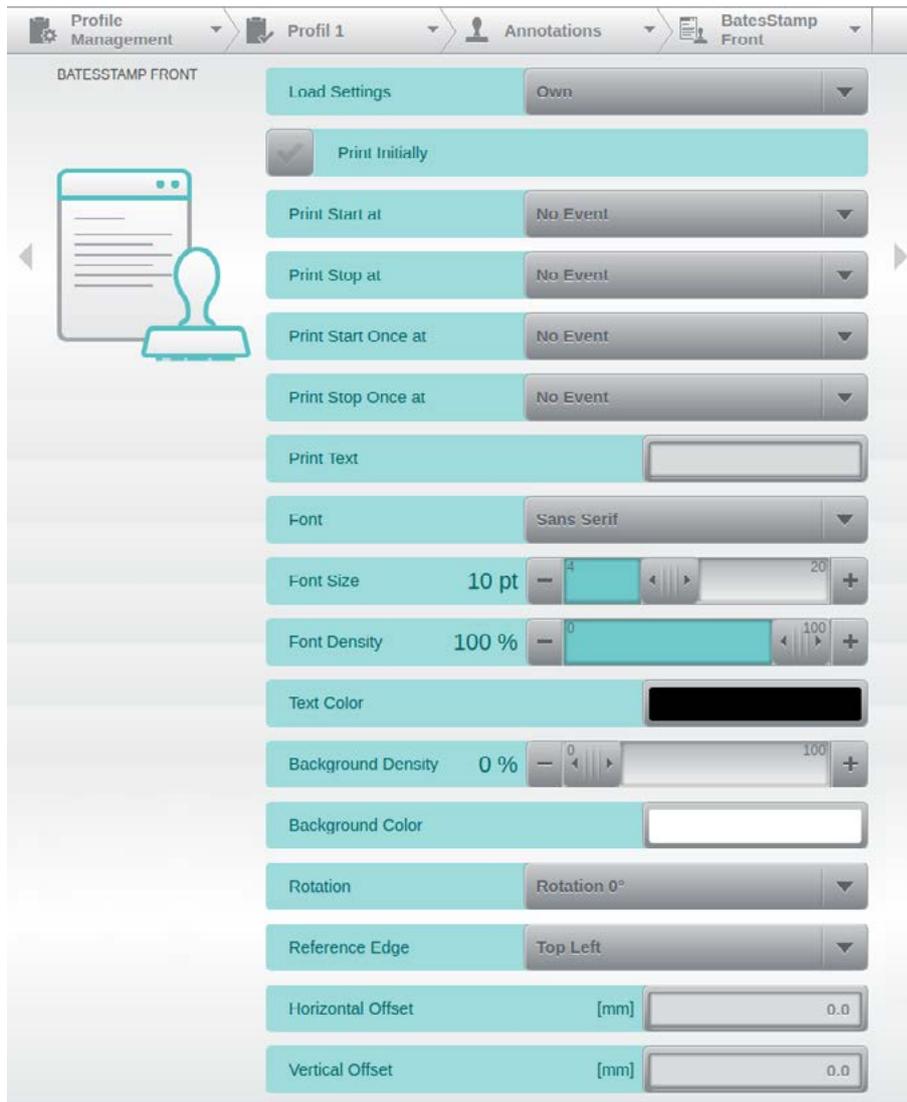
The optional HD-Imprinter is capable of reproducing three different bar code types, at three different widths. When defining print output, first set the desired bar code width (optional) using **%BCN%=narrow**, **%BCM%=medium** (default) or **%BCW%=wide**. Next, select the bar code type required (mandatory), by adding **%BC25%** (Code 2/5-i), **%BC39%** (Code 39) or **%BC128%** (Code 128). This is followed by the string you want to have printed as bar code and concluded with the control code for the end of the bar code definition, **%BCS%**. The bar code string itself may be partially or completely composed of variables. As an example, the definition for a narrow Code 2/5-I bar code, printing counter 1 as five digits and containing a checksum would look like this:

```
%BCN%%BC25%%CD_%%NMC5%%CNT1%%_CD%%CD25%%BCS%
```

## 4.6.6.1.3. Print Margin

The horizontal alignment of print output is determined by the physical positioning of the print head (see [chapter 8.4.](#)). However, the distance from the edge of the document to the beginning of the print is specified here, through the value for Print Margin (*as millimeters*).

### 4.6.6.2. BatesStamp Front/Back



This setting mask contains all the parameters for configuring the digital image stamp.

The mask pictured here is graphically edited, because it exceeds the display area of the touchscreen.

Since all settings for digital image stamps placed on front or rear images are identical, only the configuration options for **BatesStamp Front** will be explained, below.

#### 4.6.6.2.1. Load Settings



The top item on this screen will load configurations made elsewhere and pre-set all other items on this screen, accordingly. This happens whenever you first select **Other Side**, **Imprinter Front** or **Imprinter Back**, which effectively copies the configuration from the other side of the document or from one of the imprinters. As soon as you make any changes to other settings on this screen, Load Setting will revert to **Own**.

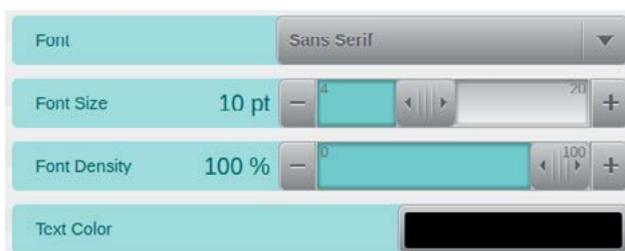
#### 4.6.6.2.2. Enable/Disable BatesStamp

The options for enabling and disabling the digital image stamp are identical to those for imprinters. Please refer to chapter [4.6.6.1.1](#) for more details.

#### 4.6.6.2.3. Print Text

The options for **Print Text** definition are largely identical to those used for imprinters (with the exception of bar code variables, for HD Imprinters). Please refer to chapter [4.6.6.1.2](#) for more details. Please also note that bar code output is generally not supported, for digital image stamps.

#### 4.6.6.2.4. Font



These four settings modify the text formatting used by the digital image stamp. Use the top field to select between a **Serif**, **Sans Serif** or **Monospaced** Font. Use the slider below to set the **Font Size** to somewhere between 4 and 20 points. **Font Density** determines the degree of text opaqueness applied. The default setting of 100% corresponds to maximum blackening.

Reducing this value will increase transparency and will thus prevent image data from being obscured. Tapping the **Text Color** selection box at the bottom will open the color picker dialog (see chapter 4.2.2.), which you may use to select any desired text color. Please note however, that the final mapping of this color will obviously depend on whether color, grayscale or bitonal images are created.

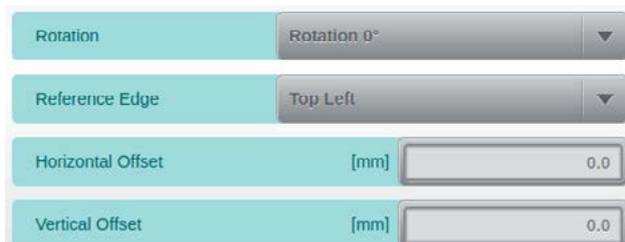
#### 4.6.6.2.5. Background



If you want to avoid image data interfering with the contents of the digital image stamp, you may add a defined background, using these two fields. Configuration is identical to **Font**

**Density** and **Text Color**, however here, **Background density** defaults to 0%, which means that it is fully transparent, initially.

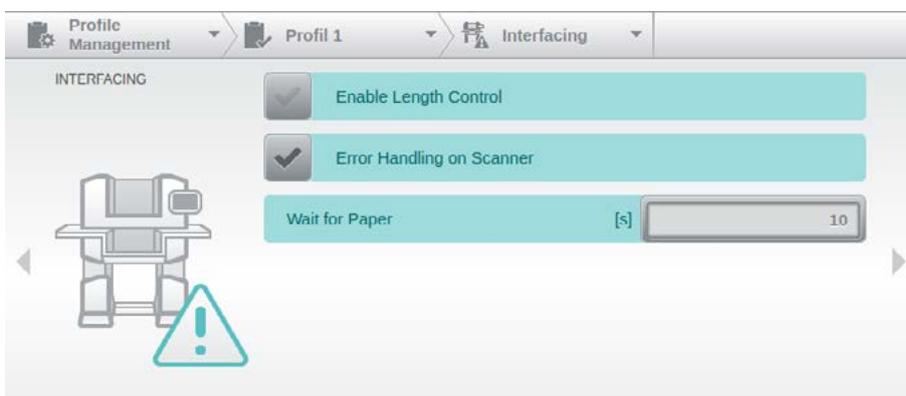
#### 4.6.6.2.6. Positioning



The last four fields on this screen deal with stamp positioning. The uppermost field will rotate the stamp, by either 0°, 90°, 180° or 270°. The second field defines one of the four document corners, as the point of reference. The **Horizontal Offset** and the **Vertical Offset** specify the respective distance from this point of reference to the top left corner of the stamp. Therefore, whenever

selecting a reference point other than Top Left, please make sure to choose large enough offsets to still fit the entire stamp onto the image area.

### 4.6.7. Interfacing



The options of the **Interfacing**, which will be described in more detail below, deal with the conduct towards external scanning software.

#### 4.6.7.1. Enable Length Control



This option will enable a continuous check of incoming documents and compares them to the document dimensions (see [chapter 4.6.3.1.1.](#)) and orientation (see [chapter 4.6.3.4.](#)) specified. If the actual paper length or width exceeds these specifications, an appropriate error message (see [chapter 9.2.26.](#)) is raised and scanning will be interrupted. The check of paper length is crucially dependent on the settings for *Deskew*. With Deskew enabled, the default length tolerance of approx. 2 cm is raised to the increased length resulting from the maximum degree of rotation allowed (see [chapter 4.6.3.5.](#)).

#### 4.6.7.2. Error Handling on Scanner



Because of the scanner's spacious touchscreen, it is no longer necessary to pass on detailed error messages to external scanner software, for display. If this option is checked (*default*), the scanner will instead place the attached software in an inactive waiting mode, as soon as a scan error occurs. The scan operator can then correct the cause of the error message, locally confirm the error message with **OK** and re-start scanning with the start buttons available on the scanner (see [chapter 5.8.1.](#)). If the waiting mode needs to be terminated because scanning will not be resumed, this may be achieved by operating the scanner's red **Quick Stop**  button (see [chapter 5.8.2.](#)), located at the paper input

#### 4.6.7.3. Wait for Paper



This option will give operators more flexibility, when starting a new scan. If set to 0, the scanner will assume that documents have already been placed in the active input tray, before scan-start. With a setting of 10 (*default*), however, the scanner will wait for documents for up to 10 seconds, if the input tray was found to be empty, at scan-start. Once this grace period has passed, scanning will be interrupted.

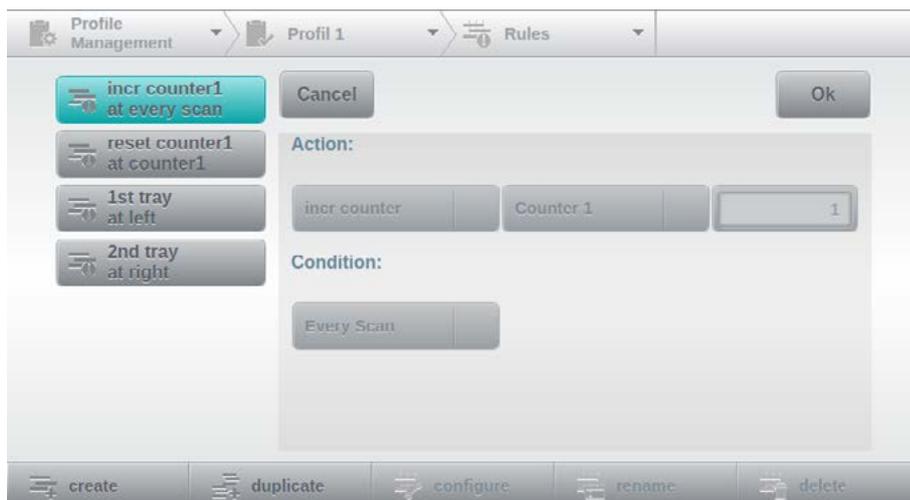
### 4.6.8. Rules



Although the use of specific events (see [chapter 4.2.3.](#)) is a very flexible method of controlling various functions within a scan profile, there are still some instances where this will not suffice. In order to offer extended control options for such complex scan

projects, you may create additional and self-defined Rules, using this menu option. Please note that Rules are only available for *scanner internal* scan profiles (see [chapter 4.6.](#)), since external scan-software is usually incapable of maintaining the dynamic control structures required.

A rule is defined as an activity which is triggered as soon as one or more of its specific conditions hold true. At the top-level of this menu-item, you will find a listing of all rules which have already been automatically created by configuration changes made to this scan profile. assignment of an output bin to the second tray of a dual input hopper In the example shown in the picture above, these are incrementing counter 1, for each scan performed and resetting counter 1, as soon as its trigger value has been reached (see [chapter 4.6.5.1.](#)), beside the assignment of the two output bins to the respective tray of a dual input hopper. If we now also want to reset counter 1, whenever a certain patch code is detected, then this can only be achieved through an additional rule.

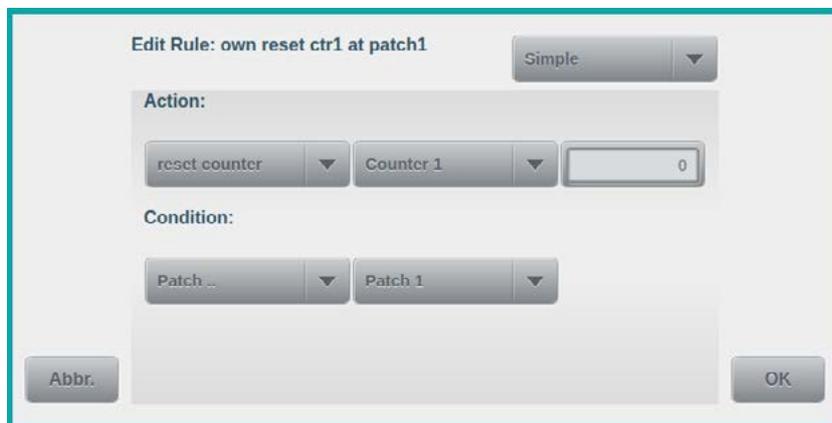


Tapping the button **Edit Rules** will change the appearance of this configuration screen, as shown to the left. Existing rules may now be selected (*and are highlighted turquoise*) and a bar with several function keys is also presented. Whereas function key **create** will produce a completely new rule, tapping **duplicate** will create a copy of the currently highlighted rule.

In either case, you will be prompted to enter a name for the new rule, using the keypad. After confirming with **OK**, a separate configuration screen for the new rule will appear. This will be described in more detail, below. If an existing and **self-created** rule is highlighted, you may use function key name to **rename** this rule or **delete** to remove this rule. Tapping **configure** will open the configuration screen, for the highlighted rule. Please note that these three functions are not available for rules which were automatically created, through configuration choices.

#### 4.6.8.1. Rule Definition

In order to illustrate rule definition, we will use the example from above. Counter 1 is supposed to be reset, either as soon as its trigger value is reached or whenever Patch 1 is detected. Firstly, open the rules overview screen by tapping **Edit Rules**. Next, for the sake of simplicity, highlight existing rule **reset counter1 at counter1** and use **duplicate** to create a copy with a name of **own reset ctr1 at patch1**. You will now see the rule definition screen below. Please note that **Simple** is shown as the current rule type,



at the top right of this screen. The procedure for **Complex** rules will be explained later, in chapter 4.6.8.4. .

By copying an existing rule (*which was automatically created through configuration choices*), the three fields defining **Action** have already been pre-set to their correct values: Counter 1 will be reset to zero. All that remains to be done is

to change **Condition** to the detection of Patch 1. In the following chapters, the meaning and benefit for all available Actions and Conditions will be discussed in full detail.

#### 4.6.8.2. Actions



Depending on the Action selected, up to three fields will be shown. The first field invariably specifies the action itself (*here: reset counter*), while the second field (*optional*) specifies the reference item acted upon (*here: Counter 1*) and the third field (*optional*) contains a value, if required (*here: reset value 0*). The following actions are available:

Depending on the Action selected, up to three fields will be shown. The first field invariably specifies the action itself (*here: reset counter*), while the second field (*optional*) specifies the reference item acted upon (*here: Counter 1*) and the third field (*optional*) contains a value, if required (*here: reset value 0*).

incr counter	The first two actions will increment or reset one of four counters. As already shown above, one of the counters ( <b>Counter1..4</b> ) is required as the reference item, plus a value for either incrementing the counter by, or for resetting the counter to.
reset counter	
deactivate df	The next three actions deal with activating and deactivating Double Feed Detection (see chapter 4.6.4.1.1.) and directly correspond to the three options available there. Action <b>deactivate 1 df</b> will deactivate Double Feed Detection for the sheet following the sheet fulfilling the specified condition.
deactivate1 df	
activate df	
start imprint	These four actions directly correspond to the options for enabling and disabling Imprinters (see chapter 4.6.6.1.1.) . Actions with an additional 1 in their name will be executed only once after the specified condition has been met. For all of four actions, <b>Imprinter Front</b> or <b>Imprinter Back</b> needs to be specified, as respective reference item.
stop imprint	
start1 imprint	
stop1 imprint	
start bates	These four actions are similar to the imprinter actions discussed above, however these actions refer to enabling and disabling digital image stamps (see chapter 4.6.6.2.2.). Therefore, in this case, <b>BatesStamp Front</b> or <b>BatesStamp Back</b> needs to be specified, as respective reference item.
stop bates	
start1 bates	
stop1 bates	
change tray	These actions correspond to the options available in menu Output (see chapter 4.6.3.3.). <b>change tray</b> will switch between output trays 1 and 2. The next three actions correspond to <b>Output to Tray 1</b> , <b>Current Output to Tray 1</b> and <b>Next Output to Tray 1</b> . The same actions are also available for Tray 2 and the rear output tray, with <b>rear</b> corresponding to <b>Switch front/rear</b> . None of these actions require reference items.
1st tray	
1st tray1	
1st tray1 next	
coldetect	The actions shown to the left refer to control options shown in menu <b>Stream Control</b> (see chapter 4.6.2.5.4.). <b>coldetect</b> will start internal <b>Detection</b> , whereas the next three actions will activate color output for all following images ( <b>color</b> ), the current sheet ( <b>color1</b> ) or the following sheet ( <b>color1 next</b> ), whenever the respective condition has been met. The latter three actions are also available for grayscale and bitonal output. Finally, <b>toggle stream</b> will switch back and forth between the <b>Default Stream</b> and the image type specified by <b>Toggle to</b> . You will also need to specify either Front or Rear, as the reference item, depending on whether this action refers to front or rear pages only.
color	
color1	
color1 next	
toggle stream	
delete1	The last item on this list corresponds to the <b>Delete Image(s) at</b> function (see chapter 4.6.2.4.) and will remove all images belonging to the current document, whenever the specified condition is met.

### 4.6.8.3. Conditions

Condition:	The list of conditions provided for the definition of rules is essentially based on the list of events (see chapter 4.2.3.) available for the configuration of functions, in scan-profiles. However, Conditions are - to some extent - defined in combination with reference items and/or value fields..
Counter .. == ..	
Every Scan	These two items simply define every page scanned or (as a subset thereof) every page transferred, as a condition.
Transferred Sheet	
Patch ..	This condition refers to patch code detection. The accompanying reference item is used to specify whether the action is triggered by a specific patch code type or by any patch code ( <b>Any Patch</b> ) or conversely, by the absence of patch codes ( <b>No Patch</b> ).

**Barcode == ..** These two items turn results from the activated bar code detection into conditions. **Any Barcode** will accept all bar codes detected, whereas **Barcode ==..** will filter detection results according to a value or value range specified. The formatting of value is the same as for the **Trigger Value** (see chapter 4.6.4.4.4.) used during bar code configuration.

**Counter .. == ..** **Counter\_ ==..** turns a specific count into a condition. As shown in the graphic at the top of this section, in order to use this as a trigger for an action, you will additionally need to specify a counter, as the reference item, plus the desired count, as the value.

**Double Feed** This item uses a positive result from the Double Feed Detection, as a condition.

**Feeder** These three entries may be used as conditions if a Dual Input Hopper is installed. **Feeder** will trigger whenever the input tray is switched, **Left Input** and **Right Input** will trigger whenever the respective tray is activated.

**Left Input**

**Right Input**

**Shorter Than** The last two items will trigger whenever the document length falls below a certain value (**Shorter Than**) or exceeds a certain value (**Longer Than**). The values used are specified through respective fields (see chapter 4.6.4.2.7.) in menu item **Control Settings**.

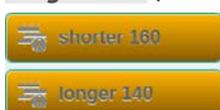
**Longer Than**

#### 4.6.8.4. Complex Rules

As indicated above, rules may also be defined as **Complex**, in the rule definition screen. Complex rules are used whenever several conditions need to be simultaneously met, for an action to take place. Up to four conditions may be combined in a complex rule. Such conditions are initially defined as individual, **Simple** Rules, but without an Action specified. If a Simple Rule with an Action is inadvertently added to a Complex Rule, this will result in a consistency error.

Please consider the following example, which will illustrate a typical application for a Complex Rule: A document pile for a scan project contains forms of varying lengths. Documents of approx. 150 mm in length are supposed to be ejected into the rear bin, whereas shorter or longer documents are not.

In order to achieve this, limits of **160 mm** and **140 mm** are entered into the fields for **Shorter Than** and **Longer Than** (see chapter 4.6.4.2.7.), respectively. Next, two self-defined rules are created (named **shorter 160** and **longer 140**), which are assigned conditions **Shorter Than** and **Longer Than**, respectively, but are not assigned any actions. After saving them, these rules are highlighted orange, in the rules list, because they have not yet been assigned to



a complex rule and are also not usable in their own right, since they contain no action. Next, a new rule is created (named **own rear at 150**), which is defined as **Complex** and assigned action **rear1**. Besides **No Condition**, the drop-down lists for Condition will also offer all self-defined rules. Both rules created earlier need to be selected as the first two conditions. After saving this new Complex Rule, rules **shorter 160** and **longer 140** will have been successfully assigned and are no longer highlighted orange. If this Complex Rule is utilized in a scan-profile, all documents with a length between 140 mm and 160 mm (i.e. approx. 150 mm)

are ejected into the rear bin, since this is the range where both conditions overlap and simultaneously become true.

#### 4.6.8.4.1. Hierarchical Rules

Complex Rules may be daisy-chained or nested, in cases where more than four conditions are required. Daisy-chaining is achieved by creating a Complex Rule containing three items with Conditions (*i.e. Rules without Action*) plus a fourth item with another Complex Rule containing four more Conditions. Alternatively, up to four Complex Rules containing four Conditions each (*i.e. Rules without Action*) may be combined in a fifth Complex Rule. These hierarchical arrangements may be extended further, with no limit to the number of levels used.

Another reason for hierarchically arranging Rules are situations where different types of logical operators need to be applied to Conditions. If several Conditions need to simultaneously apply, they are joined with what is known as a logical **and** operator. If only one of several Conditions needs to be true, they are joined with a logical **or** operator. However, only one type of logical operator can be used within one Complex Rule. Since several Simple Rules triggering the same Action are effectively ored, the use of an **or** operator within a Complex Rule only makes sense, if one of a set of alternative conditions needs to simultaneously become true with another condition.

In order to illustrate this principle, we'll expand the example from above with an additional requirement: Images for all documents with a length of 150 mm also need to be discarded if a Patch T, a Patch 6 or an arbitrary bar code is detected, on them. For this to work, **Patch Code Detection** (see chapter 4.6.4.3.), as well as **Barcode Detection** (see chapter 4.6.4.4.) need to be activated, in the current scan-profile.

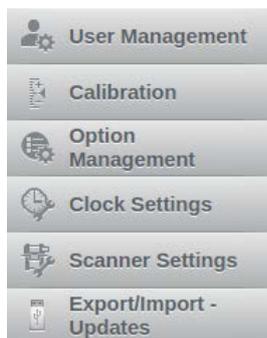


Three Simple Rules without Action need to be created, one with condition **Any Barcode** and two more using the **Patch ..** condition. For the latter, the two desired patch code types need to be added, as value. Again, these Rules will be highlighted orange, in the rules list, for as long as they are not used as condition in a Complex Rule. Therefore, another Complex Rule is now created (*named Codes to delete*), but this time, No Action is selected and the logical operator is changed to **or**. The three Simple Rules from above are added as conditions.



Finally, another Complex Rule is created (*named img del at 150+Codes*) for which **delete1** is selected, as the action. **and** is again used as the logical operator. Three Conditions are added, namely the two Rules discussed in the initial part of this example, plus the Complex Rule containing the three codes, as the condition. As a result, the requirements for this Complex Rule are fulfilled: All images shorter than 160 mm but at the same time longer than 140 mm will be discarded, provided they contain an arbitrary bar code or one of the patch codes specified.

## 4.7. Administration *(Administrator Rights required!)*



After selecting main menu item Administration, the adjoining segment in the navigation bar will offer a drop-down list with all of the sub-menus available from here. The functions contained are of administrative nature and should only be made accessible to staff which have either received a formal administrator training, for this particular scanner model, or some other form of equivalent and adequate briefing. The unit is shipped with a default administrator account whose user name and password is **admin**.

### Caution

*Improper use of administrative settings may lead to reduced scanner performance and/or impaired quality of the images produced. In the worst case, the unit may be rendered inoperable.*

### 4.7.1. User Management



If **User Management** is selected, a configuration screen will be displayed, as shown to the left. If this is done by an administrator, the list of users will include all known user accounts, right up to the authorization level of **admin**. In this example, three accounts are displayed, two default users **admin** and **scan** plus one additional user, **ScanOp1**. If

User Management is opened by a service-user, only user accounts up to the authorization level of **service** will be listed. Also, authorization column service is shown, instead of admin. In the admin example shown, user **ScanOp1** has been selected for editing and is therefore highlighted turquoise. Default user **admin** cannot be selected, since this is the only user with **admin**-rights and therefore has to be the currently logged-on user. Default user **scan** is also shown in gray, because it may not be modified at all, by definition.

Tapping **create** in the button bar at the bottom of the screen will add a new user-account. The keypad will open and you will need to enter a username. A newly created user is automatically highlighted and may now be granted user rights (*top level is admin*) by tapping/selecting the desired rights level. Whereas default user scan has no specific rights level assigned, additionally created user-accounts may be assigned one of the three available rights levels **C (privC)**, **B (privB)** or **A (privA)**. These rights levels are hierarchically staggered, with **A** being the highest and thus including levels **B** and **C**. Scan-jobs and scan-profiles can be protected from access by non-privileged users, by appropriately setting field **Privilege Level** (see chapter 4.6.1.1.). The rightmost column **needsPwd** determines whether or not a password is required whenever the user logs (see chapter 4.1.2.) on to the system. If needsPwd is selected, a new user will be prompted for a password, when first logging on. Tapping **unlock** in the button bar will remove a previously assigned password, should this have been forgotten. Again, the next time this user logs on to the system, he or she will be prompted for a new password. Tapping **rename** in the button bar will allow you to change the name of the currently selected user account, through the keypad supplied. Tapping **delete** will remove this account, completely.

## 4.7.2. Calibration

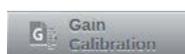


This menu item will display a screen with buttons for all four calibration procedures available. These procedures will be explained in more detail, below. Each calibration routine requires the use of a clean white balance sheet (*included*), which needs to be placed in the (*active*) input tray, in **landscape** orientation. When starting calibration, the scanner will automatically load the white balance sheet, when calibration has completed, the sheet will be ejected into the rear output tray. The time required for each of the calibration methods varies. During calibration, a busy message (*see chapter 9.1.6.*) is shown, on the scanner's display. If calibration fails, a corresponding error message (*see chapter 9.2.17.*) will be displayed.

### **Please note**

*Calibration is typically performed during scanner repair or preventive maintenance. Apart from these occasions, calibration is usually only necessary after firmware updates when indicated and should be performed in close consultation with the service technician responsible or with a member of the customer hotline of InoTec GmbH.*

### 4.7.2.1. Gain Calibration



Tapping this button will initiate a calibration of the scanner's A/D (*analogue/digital*) converters. Before beginning, the unit's scan area must be thoroughly cleaned. If a **White Calibration** (*see below*) is also necessary, please make sure that this is always performed after a successful **Gain Calibration**.

### 4.7.2.2. White Calibration



Tapping this button will initiate a white balance calibration of the scanner's internal cameras. Again, before beginning, the unit's scan area must be thoroughly cleaned. If a **Gain Calibration** (*see above*) is also planned, please make sure to perform **Gain Calibration** ahead of **White Calibration**.

### 4.7.2.3. OS Calibration



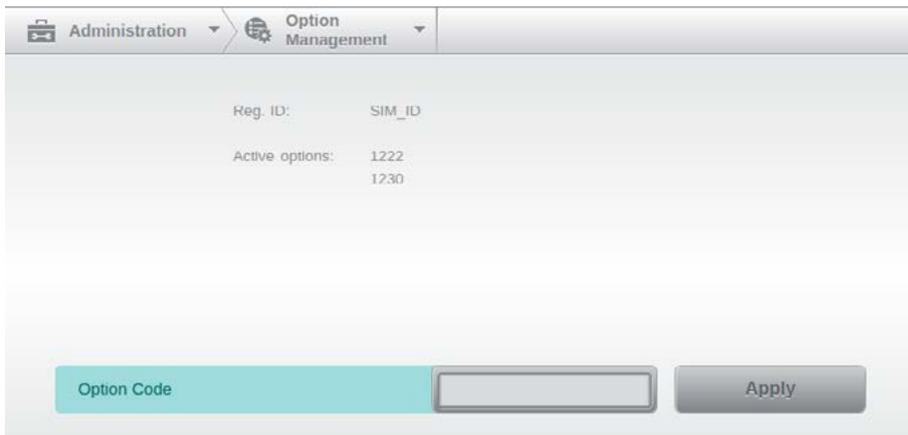
Tapping this button will initiate a calibration of the five optical sensors located in the upper, front area of the scan plane (*see chapter 2.3.3.*). These sensors are used for document input detection and for early detection of patch codes. Before proceeding with calibration, please make sure to check the Paper Guide Springs (*see chapter 7.3.4.*) opposing the optical sensors, for possible damage or contamination.

### 4.7.2.4. US Calibration



Tapping this button will initiate a calibration of the ultrasonic sensors used for double feed detection. These sensors are located in the upper and lower housing at the front of the scan plane and should be cleaned before proceeding with calibration (*see chapter 7.3.1.*).

### 4.7.3. Option Management



Selecting menu item Option Management will display a screen with option information. At the top of the screen, the scanner's **Reg. ID** is displayed, below is a list of already installed **Active Options**. Options are upgrades which will improve the scanner's performance and capabilities and may be re-



troactively purchased or leased. In the example shown to the left, both Active Options are speed options, one for 220 ppm (1222) and one for 300 ppm (1230) throughput. Field **Option Code**, at the bottom of the screen, may be used to add further options. To do so, first enter an option code using the keypad, then tap button **Apply**. If the option code is invalid, you will receive the error message shown to the left.

### 4.7.4. Time Settings



If an external scan application is used, the scanner's time and date settings are automatically synchronized with those of the scan PC, as soon as it is connected. If the scanner's internal scan client is used, this will not happen and you can use the sliders on this screen to manually set the scanner's time and date, instead.

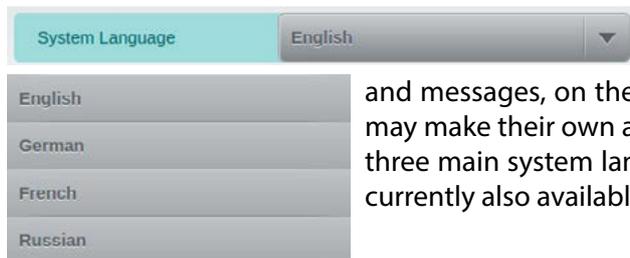
### 4.7.5. Scanner Settings



All settings on this screen are general settings and therefore equally apply to all users, jobs and profiles.

Each of these settings will be discussed in detail, below.

#### 4.7.5.1. System Language



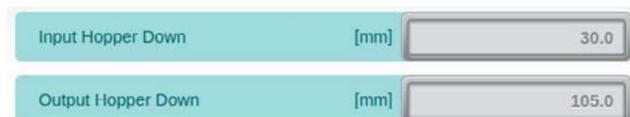
This setting determines the global system language which is used to for menus, menu items and messages, on the scanner's display. Additionally, individual users may make their own and differing choice (see [chapter 4.4.](#)). Besides the three main system languages, English, German and French, Russian is currently also available.

#### 4.7.5.2. Inactivity Timeout



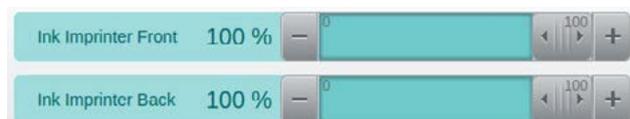
This field specifies the inactivity period (in minutes), which needs to pass without scanning or use of the touch display, before the scanner will automatically enter energy-saving mode. The default value is 15 minutes, however this can be reduced or increased as needed. Reducing the value to 0 will turn off the automatic energy-saving mode, entirely. The scanner may be returned from energy-saving mode by pressing button **Start/Pause** (see [chapter 3.5.](#)), on the scanner itself.

#### 4.7.5.3. Input/Output Hopper Down



These two fields control the degree of the motorized lowering of the input and output trays. The (*active*) input tray will be lowered by the amount specified in field **Input Hopper Down** (in millimeters), whenever a scanner error occurs or if the Pause button is pressed. The exact behavior depends on the choice made in the profile setting of the same name (see [chapter 4.6.4.2.4.](#)). The output tray will be lowered by the amount specified in field **Output Hopper Down** (in millimeters), provided a High Speed Stacker Arm (see [chapter 5.7.2.](#)) is installed and has been folded upwards.

#### 4.7.5.4. Ink Imprinter Front/Back



The last two fields on this screen reflect the status of the ink supply, for the imprinters Front and Back. If these readings were not reset to 100%, after an ink cartridge has been replaced with a new one (see [chapter 8.3.1.](#)), or if these settings were inadvertently reset after cleaning and re-installing a print head, you may use these controls to re-adjust these readings to the correct level.

#### 4.7.6. Export/Import - Updates



This menu item will open a screen with export-/import-functionality and controls for updating the firmware of the scanner. Both of these functions require a USB flash drive with a FAT32 partition. Flash drives formatted with NTFS are not supported.

##### 4.7.6.1. Job/Profile Export



This button will allow you to export job- and profile configurations created on this scanner. This is useful for creating backups of all scanner internal configurations, but it is also outstandingly suitable for transferring these to other scanners of the same type.

Tapping the button will open a screen, which on the left side (*in column: **Scanner***) offers two drop-down lists with all Jobs and Profiles available on this scanner. Below each drop-down list there are two more buttons, one is labelled **export this** and the other one is labelled **export all**.



Below each drop-down list there are two more buttons, one is labelled **export this** and the other one is labelled **export all**. **export this** will register the currently selected list entry for export and add its name to the respective list on the right (*in column: **USB-Media***). **export all** will do the same, but for all the jobs or profiles in each list. In the example shown, *Job 1* and *Job 2* were individually

selected, whereas all profiles were collectively earmarked for export. Provided a suitable USB flash drive is connected to one of the USB2 ports on the scanner, pressing OK will now proceed with export and create a file labelled `jpexport.ino`, on the USB drive. If no flash drive is present or if it cannot be written to, a corresponding error message will be created (*see chapter 9.2.31.*) and displayed on the screen.

#### 4.7.6.2. Job/Profile Import



As the counterpart to the export function discussed above, this button will import previously exported job- and profile settings, from a USB flash drive, into the scanner.

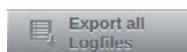
Before proceeding, a USB flash drive containing a ***j-p-export.ino*** file needs to be inserted into one of the available USB2 ports. If this file is missing or corrupted, or if the configuration profiles contained



in the file are incompatible with the firmware on this scanner, an appropriate error message will be raised (*see chapter 9.2.32./9.2.33.*). If all is well, a screen will be displayed which is similar to the screen for the export function (*see above*). However, the two drop-down lists and the buttons for **import this** and **import all** are now located in the right hand column,

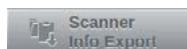
labelled **USB-Media**. The items in the drop-down lists correspond to the job and profile configurations which are contained in the export file on the flash drive. The left hand column of this screen, labelled **Scanner**, lists the jobs and profiles which have been selected for import. Again, the procedures for selecting jobs and profiles are the same as discussed for export. In the example shown, the **import all** button has been used, for both jobs and profiles. Since here, the exported items are being re-imported on the same unit, the original jobs and profiles are still present and they are therefore marked with **ALREADY EXISTS**, on the import screen. If an import is attempted in spite of these warnings, an error is thrown (*see chapter 9.2.34.*) and displayed on the screen. Provided no jobs or profiles with identical names are present on the scanner, the import will proceed without error and all newly imported configurations may be utilized.

#### 4.7.6.3. Export all/last Logfiles



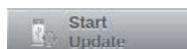
During operation, the scanner collects logging information, which is eventually written into a new and separate file, at each scanner boot-up. The two buttons shown to the left will export such log-files onto a USB flash drive inserted into one of the available USB2 ports. During this process, a new folder is created on the flash drive, labelled in the following format: **usb3-logs-<JJJMMTT>-<HHMMSS>**. The pointed brackets are placeholders and represent the actual time and date. Within such a folder, all log-files are stored as consecutively numbered and compressed files with file extension: **.gz**. Button **Export all Logfiles** will export all available log-files, up to a maximum amount of 100, whereas **Export last Logfiles** will only export the log-files created during the last five scanner boot-ups. This choice is usually sufficient when examining more recent incidents. If no flash drive is present or if it cannot be written to, a corresponding error message will be created (see chapter 9.2.31.) and displayed on the screen.

#### 4.7.6.4. Scanner Info Export

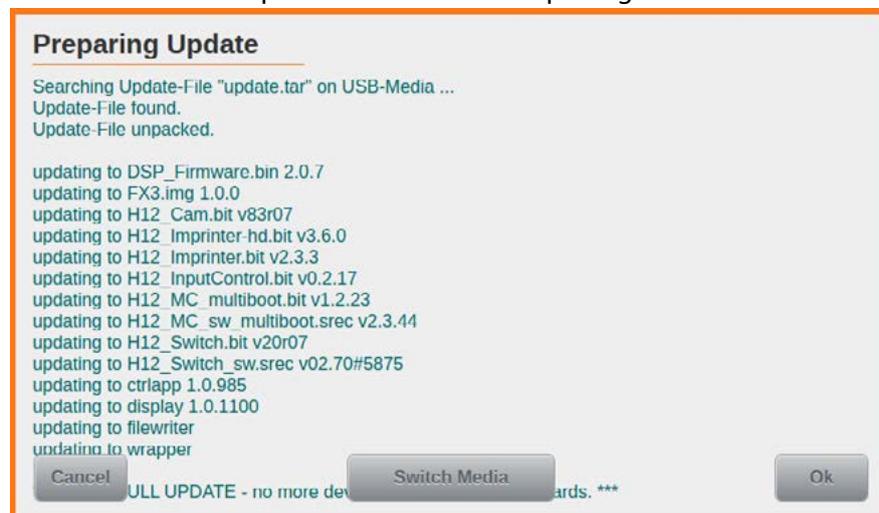


The button shown to the left will export scanner information onto a USB flash drive inserted into one of the available USB2 ports. During this process, a new folder is created on the flash drive. The folder name is composed out of a combination of scanner model, serial number, date and time. The folder contains various files with calibration data, plus scanner information of the type created by the Info-button (see chapter 4.1.3.). If no flash drive is present or if it cannot be written to, a corresponding error message will be created (see chapter 9.2.31.) and displayed on the screen.

#### 4.7.6.5. Start Update



This button will perform an update of the scanner's firmware. This process will only work if a suitable firmware package is supplied as a compressed file in TAR format. This file needs to be copied to the root directory of a USB flash drive, which is then inserted into one of the scanner's three USB2 ports. If a valid firmware package is detected on the flash drive, a list of all firmware



versions contained in that package will be displayed in the update screen shown to the left (please note that the Switch Media button may only be used by service technicians, for special purposes). Before starting the update process through tapping the OK button, please make sure that the desired update file has in fact been found, on the drive. The update process may take

several minutes to complete and during its course, several different status messages will appear on screen. If the update fails, a corresponding error message will be displayed.

## 5. Scanning Documents

SCAMAX® scanners offer all conditions for efficient working. In particular, the devices of the H12 type can be optimized through optional extensions of the Output/Input Hopper. The following chapters describe possible setting and correct use of the hardware to ensure optimum paper transport.

### 5.1. Preparation of Documents

In order to ensure minimum disruption during batch scan, a conscientious preparation of the material is essential for good scan. To do this, all foreign objects and contaminants (*paperclips, staples, glue, etc.*) should be removed from the Outputs. Donkey ears should be smoothed and deeper cracks glued. Stapled or bound documents are to be separated and folded papers straightened. Attention must not be paid to text-based orientation of documents as may be used during the scan functions of this comprehensive image orientation (*see chapter 4.6.3.4.*).

Because the documents are fed in on the front edge of the Input Tray by the feeder system, all documents of the stack must be pushed to the edge, pointing towards the document feeder. Documents that do not lie at the edge, necessarily produce a Double Feed (*see chapter 9.2.14.*). If the centered input is used (*see chapter 5.4.2.*) it should be ensured that any smaller documents will also be made to touch the central area. The use of the so-called paper shakers for the preparation of different formats is not recommended, as they do not provide for the central feed of documents.

### 5.2. Einstellen der Arbeitshöhe

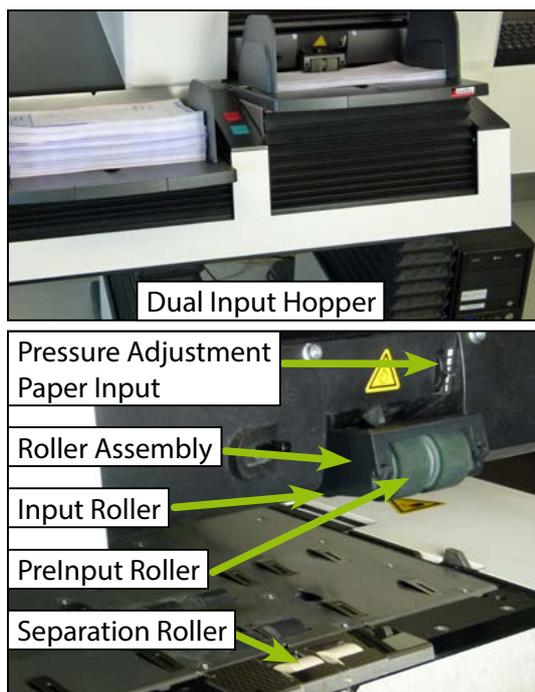
In order to allow for the highest degree of ergonomic use and fatigue-free work, H12 scanners can be adjusted to the operator's desired working height. The two buttons shown to the left are displayed in the Button Bar (*see chapter 4.1.6.*), as standard. They will raise or lower the scanner's input tray up to a maximum height of 1100 mm or down to a minimum height of 640 mm. This process is fully motorized.



#### **CAUTION / WARNING**

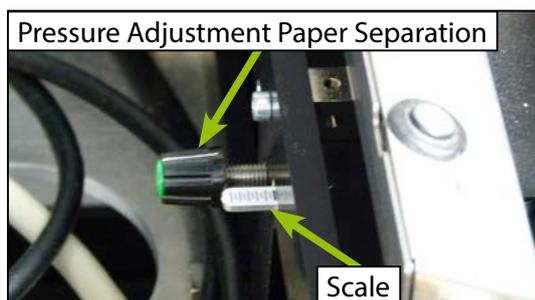
*When adjusting the working height, please make sure that no obstacles or foreign objects are in the scanner's travel path – the unit itself or obstructing items might be damaged. Also, please keep the scanner's travel path clear of your own and other people's limbs. Otherwise, when performing height adjustments, there would be a danger of sustaining pinching or crushing injuries.*

### 5.3. Operation of the Input System



The used feeder system, processes a wide range of different paper thicknesses, also mixed in one stack. It is designed so that regardless of paper thickness and surface finish an optimal feeding performance is achieved without the need for an adjustment having to be made. Centered above the front edge of the Input Tray, is the Roller Assembly that incorporates a PreInput Roller and an Input Roller. Upon Scanstart (see chapter 5.8.) the input tray is lifted until the PreInput Roller rests on the paper stack. The PreInput Roller pulls the documents from the top of the stack and transports them to the Input Rollers behind. The force applied to documents by the PreInput Roller may be changed in 5 steps by using the Pressure Adjustment Paper Input. You might notice the PreInput Roller skidding over documents, without actually moving them. In this case, increasing the contact pressure will usually improve paper transport. Below the Input Roller is the Separation Roller that separates the sheets possibly adhering to one another by its braking action.

#### 5.3.1. Paper Separation Adjustment



Different types of documents will exhibit varying adhesive properties. Therefore, in order to minimize the occurrence of double feeds, the contact pressure for the Separation Rollers may also be increased, similar to what is done at paper input. To perform this adjustment, you will first need to open up the scan plane (see chapter 6.1.) and then remove the front pressure unit (see chapter 7.3.3.). Located behind the ultrasonic sensors is a panel with a rotary control knob and a dial, slightly above the knob. This dial serves as an indicator for contact pressure and features a scale with several thin lines and one bold line. Each line corresponds to one revolution of the control knob, the bold line represents the factory setting. By turning the knob so the dial moves far into the panel, the default contact pressure may be more than doubled. Please note that with high contact pressures, it is no longer possible to completely deactivate the **Separation** (see chapter 4.6.3.2.2.).

#### 5.3.2. Friction Linings Types

The friction linings of the Input Rollers and the Separation Roller are made such that cleaning (see chapter 7.2.1. / 7.2.3.) is hardly necessary during the process and can be performed as needed without much effort by the user. Once the linings are worn out, they can be changed with a few simple steps (see chapter 7.2.2. / 7.2.4.).

The friction linings come in different colors, which reflect the different degrees of hardness, of the materials used. The operation of the Separation Roller relies on a balanced combination of contact pressure and roller lining friction. For this reason, the white coating of the Separator Roller is made from relatively hard material, since a softer coating would wear off, too quickly. The green coating of the Input Rollers is made from significantly softer material, since their operation predominantly relies on friction. Since certain types of documents might require even more friction at the PreInput Rollers, you might want to experiment with an even softer coating (*red*) or with a ribbed coating. Roller test-sets with these two types of coating are included in Accessory Set H12 (see chapter 3.1.), which is part of the scanner's scope of delivery.

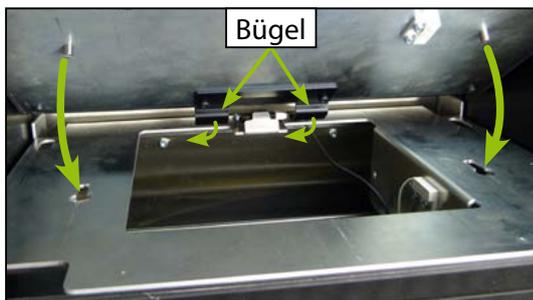
## 5.4. Input Hopper



The scanners of the H12 type are equipped with a Single Input Hopper with a Input Tray or, optionally, with a Dual Input Hopper with two Input Trays.

Each Input Tray can accommodate documents with a stack height of up to 10 cm (*equivalent to approx. 1,000 sheets of new paper with 80g / m<sup>2</sup>*). The filling height of the Input Trays can be reduced depending on the profile and percentage (*see chapter 4.6.3.1.*).

### 5.4.1. Input Plate



The input plate is only loosely connected to the input tray, in order to avoid any danger of pinching or bruising. Should the input plate move out of its position, due to inadvertent lifting or by getting caught underneath, a corresponding error message (*see chapter 9.1.15./ 9.2.23.*) will be displayed. In order to correctly return the input plate to its original position, please first align the input plate, so that it is flush with the input plate mounting base and approx. 2 cm away from the front edge. Also,

make sure that the two spigots on the lower side of the input plate align with the notches in the mounting base. Next, push the input plate to the front, until the two brackets on the underside of the input plate move under and engage with the front section of the input plate mounting base. In case of a Dual Input Hopper, the procedure is the same for both input trays.

### 5.4.2. Setting Options Paper Input



The Input Hopper has Paper Guides that can be manually adjusted to the processed document width. The Paper Guides are guided in opposite directions. This means that a Paper Guide automatically moves in the opposite direction when the other Paper Guide is moved.



In order to process documents also non-centered, a Paper Guide is pushed to the desired location of the stop and held firmly while the required paper width is adjusted by shifting the other Paper Guide.

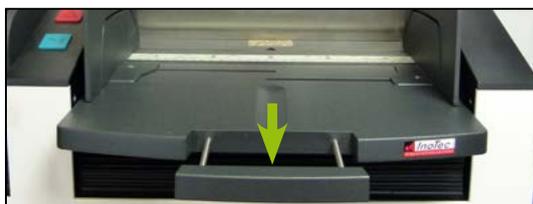


In the Input Tray there is a scale, from which the positions of the Paper Guides can be read. The information of various standard formats facilitates presetting. Furthermore, the positions of the three ultrasonic sensors for Double Feed Detection (*see chapter 4.6.4.1.*) and the possible print positions of the two imprinters are attached. A

similar scale is located in the Output Tray(s) (*see chapter 5.7.1.*), so that the Paper Guides can be adjusted properly too.



If you are working with smaller paper stacks or the supplied Paper Guide Extensions are not needed, they can be removed easily. Since they are only held in place by two magnetic holders on the Paper Guides, they can be attached and removed easily by simply folding them in place or away.



To allow also longer documents (*such as A3*) to be fed in easily, it is possible to extract a input extension from the paper input plate. .



If even the built-in extension proves insufficient for the documents on hand, an additional paper tray extension (*Order No. t8xxz355*) is available, which is clipped into the existing extension. This additional extension will support documents of up to 60 cm in length. Its slightly increased inclination will ensure optimal paper transport for longer documents..



For batch processing, the Input Tray is filled with a stack of prepared documents (*see chapter 5.1.*). It should be ensured that the documents are inserted with the bumped side towards the document feeder. The stack must not be so high that the PreInput Roller (*see chapter 5.3.*) rests directly on the Outputs.

### 5.4.3. Using the Single Input Hopper



At a H12 type unit with Single Input Hopper, this is fixedly mounted on the front of the scanner and laterally enclosed by the shelves (*see chapter 2.3.1.1.*).

After filling the Input Tray and starting the scanner (*see chapter 5.8.1.*) the inserted paper stack is processed and kept in the defined Output Hopper(s) (*see chapter 4.6.3.3.1.*). To process a further stack, the Input Tray must be filled again and the scanner restarted. Through the Profile Management, a feed mode (*see chapter 4.6.3.2.1.*)

can be chosen, which, continues the Scan process after inserting a paper stack.

#### 5.4.4. Using the Dual Input Hopper

If the scanner is operated with the Dual Input Hopper, this is mounted movable horizontally on the front panel of the device. The side shelves are therefore smaller than in the version with a Single Input Hopper (see chapter 2.3.1.2).



The Dual Input Hopper was designed to ensure continuous batch processing. This means that in the so-called Dual Feeder Mode (see chapter 4.6.3.2.1.) an Input Tray is processed, while the other one can be already filled with the next paper stack. If the currently processed Input Tray is empty, the Dual Input Hopper moves to the left or right to position the filled Input Tray under the feeder system, while the empty Input Tray is lowered. The scan

process is automatically continued mutually until both Input Trays remain empty or the user stops the scan process manually (see chapter 5.8.).

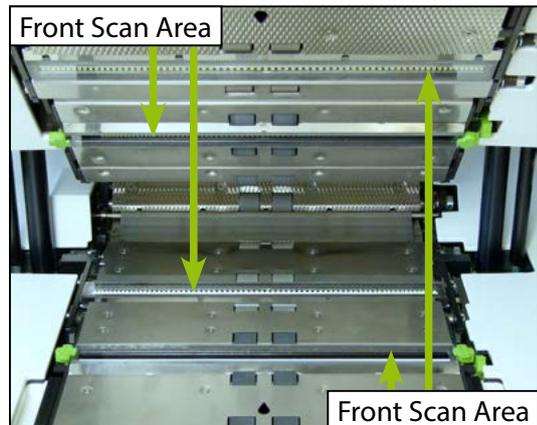
In order to consistently ensure continuous scan practice, in addition to the Dual Input Hopper, also the use of a 2nd Output Hopper (see chapter 5.7.5.) is recommended.

#### **WARNING**

*When using a Dual Input Hopper, please make absolutely sure to keep the hopper's sideways range of movement clear at all times. Otherwise, there is a danger of sustaining pinching or concussion injuries.*

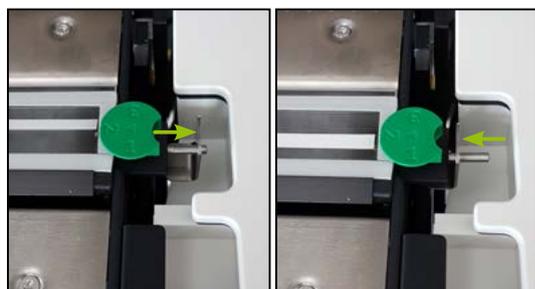
## 5.5. Scan Plane

Directly behind the feeder, the Scan Plane begins (see chapter 2.3.3.), in which the documents pass through the Document Input Detection and Double Feed Detection (see chapter 4.6.4.1.), as well as the PreScan Print Area (see chapter 2.3.3.) before first the Front Scan Area and then the Rear Scan Area is reached. Each Scan Area consists of a Scan Module with LED Illumination Unit and an associated Scan Background on the opposite side of the Scan Plane.



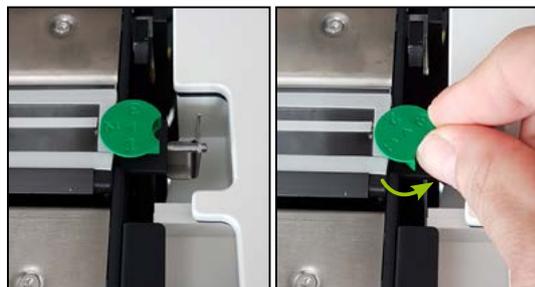
Both Scan Module and -Background are covered dust-protected with a high quality and scratch-resitant glass guide. In the Front and Rear Scan Modules respectively the associated LED Illumination Unit can be seen, which ensures uniform illumination of the Scan surface.

### 5.5.1. Scan Background



Right of the Scan Background a metal plate is located to change the Scan Background from black to white (see also chapter 4.6.2.1.3.). This is used for processing foils and transparencies, but can also be useful for very thin papers. In the standard case (black Scan Background) the plate at the Scan Background is withdrawn. By pushing this plate inwards, the scan background is changed to white.

### 5.5.2. Paper Passage Setting



With the green dials which are located at both sides of the Scan Background the Paper Passage Setting, i.e. the distance between the glass guides of the Scan Module and the Scan Background can be varied in three stages. The dials are labelled with numbers from 1 to 3, and when turned, they will latch into one of these three positions. The current setting is indicated by the number pointing inwards, towards the scan background.

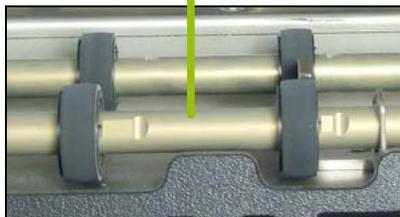
The three numbers are representing the possible passage widths: 1 = approx. 1 mm (best quality), 2 = approx. 2 mm (balanced) and 3 = approx. 3 mm (best flexibility). This suggests that the close position also generates the best image quality, whilst with the open position it offers the highest flexibility with respect to paper thickness and even stapled documents can be processed. The middle position is a balanced setting with very good quality and flexibility. In order to ensure correct operation, all four dials need to be set to the same number.

15	114	214	15	114	214
16	115	215	16	115	215
17	116	216	17	116	216
18	117	217	18	117	217
19	118	218	19	118	218
20	119	219	20	119	219
21	120	220	21	120	220
22	121	221	22	121	221
23	122	222	23	122	222
24	123	223	24	123	223
25	124	224	25	124	224
26	125	225	26	125	225
27	126	226	27	126	226
28	127	227	28	127	227
29	128	228	29	128	228
30	129	229	30	129	229
31	130	230	31	130	230
32	131	231	32	131	231
33	132	232	33	132	232

If the paper passage setting is too high, in relation to the documents processed, slight distortion within the resulting images may occur. This is caused by varying distances between the scan plane and the documents passing by. In the example shown to the left, part of an image is shown, which was created by scanning 80g/m<sup>2</sup> paper with a paper passage setting of 3. The red line was added later and illustrates the resulting distortion along the left edge of the table.

## 5.6. Paper Output

In order to keep the piles in the output bins forming as neat as possible, even at very high paper transport speeds, scanned documents are patterned with a wave-like structure, before being ejected into the output bins. The wave-like structure is oriented across the direction of travel and created by two sets of paper-forming-rollers installed at the very end of the paper path. The wave-like structure is achieved by the top pair of rollers having one roller set less than the bottom pair of rollers and by positioning the top roller sets in between the roller sets at the bottom.



When processing special document formats or when positioning paper input off-center, it may happen that some documents are dragged along (but not over) one of the roller sets, causing creased or folded edges. In order to fix this, it is possible to move individual rollers along the axle, to a certain extent, with the possible range of movement being indicated by flattened areas on the axle. When moving rollers sideways, it is important that rollers belonging to one

set are always moved together and ensuring that rollers from one pair are aligned one behind the other. So, if one roller is moved sideways on the lower front paper-forming-roller axle, please make sure to also move the corresponding roller on the rear paper-forming-roller axle, by the same amount. The factory setting for these rollers is as follows: All rollers on the left half of the paper-forming-rollers are positioned to the far left, all rollers on the right half of the paper-forming-rollers are positioned to the far right.

## 5.7. Output Hopper

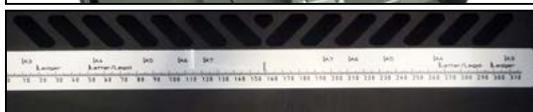
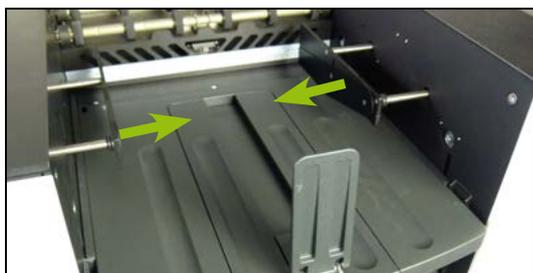


Stack Height Sensor

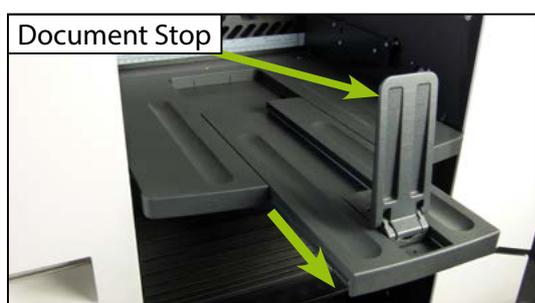
The scanners of the H12 type are equipped with one or two Output Hoppers. Each Output Hopper allows in its Output Tray a stack height of up to 13 cm, thus offers 30% more space than the Input Hopper(s). This is necessary since the stack of scanned documents is generally significantly looser than it was in the Input Tray. At the beginning of the scan process, the empty Output Tray initialises to its uppermost position and successively descends during scan. This is either controlled through the sensor system of an optional **HighSpeed Stacker Arm** (see chapter 5.7.2.) or by using the built-in **Stack Height Sensor**, which will automatically detect the top edge of the output pile. If the maximum stack height of an Output Hopper is reached, the scan will stop automatically and you will see an error message on the screen of the scanner (see chapter 9.2.6.).

In addition to the Output Hoppers, the device also has a Rear Output Tray (see chapter 5.7.6.).

### 5.7.1. Setting Options Output Hopper



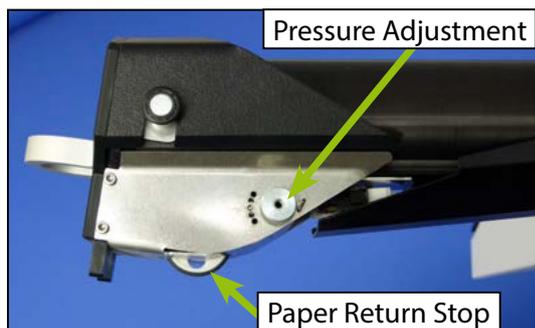
Just as the Input Hopper (see chapter 5.4.2.) every Output Hopper has lateral Paper Guides that can be manually adjusted to the width of the documents to be processed. In contrast to Input Hoppers these two Paper Guides are, however, not connected and are set completely independently. Each Output Tray has a scale identical to the scale of the Input Hopper, based on which the positioning of the Output Paper Guides can be made easier. The information of various standard formats facilitates this setting.



Document Stop

A Document Stop is mounted on the tray plate which can be set manually to the length of the documents to be processed. Besides its primary purpose of stopping ejected documents at the end of the output tray, the Document Stop also functions as a dark reference surface for the built-in Stack Height Sensor. Without this reference surface, correct operation of the Stack Height Sensor cannot be guaranteed. If the paper format exceeds the length of the tray plate, the middle part can be pulled out in order to accommodate documents up to a length of 42 cm. For documents even longer than this, the middle section can be replaced with an optional, longer version (Order No. t8xxz300), which will allow proper output of documents of up to 60 cm in length.

### 5.7.2. HighSpeed Stacker Arm



For a controlled and thus safer paper output, scanner models with a scan speed in excess of 300 ppm are equipped with a HighSpeed Stacker Arm for each of the output hoppers, as standard. HighSpeed Stacker Arms may optionally also be used with slower models. This holds documents firmly via the built-in Paper Return Stop so that springing back after reaching the Paper Stop is prevented. Over the five Pressure Adjustment positions the resistance of the Paper Return Stop at different paper weights and surfaces can be adjusted.

While the middle of the five positions is meant for Scan projects with medium weight (60-100 g/m<sup>2</sup>) and size (A5-A4), the resistance for lighter or smaller documents should be reduced by turning the pressure adjustment to the right by one or two steps and increased for heavier, larger documents or material with a slippery surface by turning one or two steps to the left.

A telescopic system allows the HighSpeed Stacker Arm to be adjusted to the document length to be processed. As can be seen in the following image series, the HighSpeed Stacker Arm is first folded upwards to change the stop length, at the same time, the Output Tray is lowered somewhat. Now the head of the arm may be pushed back to its shortest position or to the front edge of the Output Tray (equivalent to A4 portrait) and then be folded down again. The Output Tray initializes back to its uppermost position. For defining the right stop length, there is a number scale on the Tray Plate.

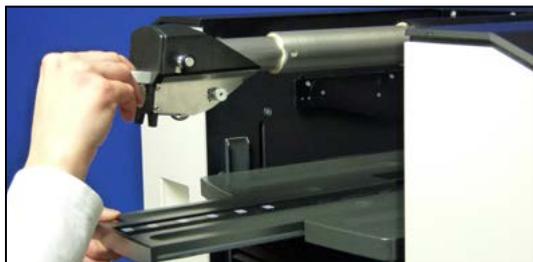


#### Notice

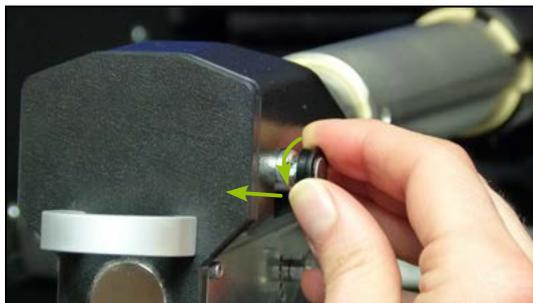
*It is important to ensure that there are no documents or objects below the Output Paper Guides located, while the tray plate moves upwards. This would result in an error message (see chapter 9.2.13.).*



If documents between 30 cm (DIN A4 portrait) and 42 cm (DIN A3 portrait) should be processed, the middle part of the tray plate must be pulled out to the required length first (see chapter 5.7.1.). Now fold the HighSpeed Stacker Arm upwards and pull out the head completely (see above). If the lock is pulled out on the right side of the head, the Stacker Arm can be extended via a second telescopic stage up to the end of the tray plate extension. If the arm is folded back downwards, the Output Tray initializes back to its uppermost position.

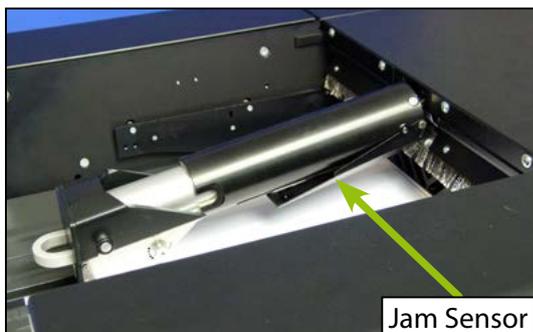


A slight rotation of the lock when pulling out causes it to remain in the open position.

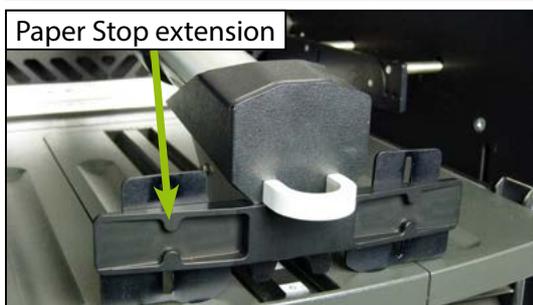


If the additional extension is no longer needed, the lock at the top of the Stacker Arm is pulled out and this is pushed back to the first telescopic stage, so that the locking slides back into its guide when released.

If the lock was turned when pulling out, it must be rotated so that it is again in the guide and visibly snaps in place after pushing back the head.



Since the documents are ejected at a very high speed when using the HighSpeed Stacker Arm, it is important that the scanner is stopped as soon as possible in case of a disruption at the Output. For this purpose, the Stacker Arm has been provided with a Jam Sensor on the bottom side. In case of distortion in the Output, this sensor is triggered very rapidly by the scanned material and stops the scanner. A corresponding error message appears on the display of the scanner (see [chapter 9.2.12.](#))



In order to prevent the lateral twisting of smaller documents at high speeds in the Output Hopper, a Paper Stop Extension will be delivered together with the HighSpeed Stacker Arm.



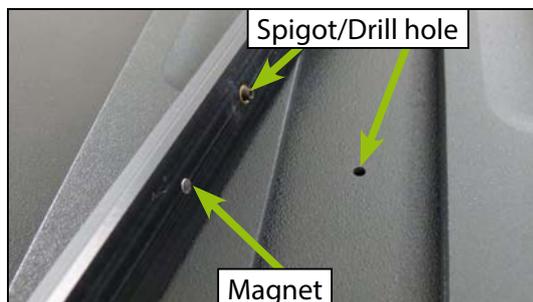
To use the Paper Stop extension, the integrated magnet holder is simply attached to the counterpart on the head of the HighSpeed Stacker Arm.

### 5.7.3. HighSpeed / Open Output Mode

In relation to the two output systems and their different way of working manner, with the devices of the H12 type we are talking about the HighSpeed Output and Open Output Mode.

The HighSpeed Output Mode is used only in connection with the HighSpeed Stacker Arm. In this case the documents are ejected into the Output Tray and piled up to a stack by the functions of the HighSpeed Stacker Arm (see [chapter 5.7.2.](#)). The documents are thereby pushed to the same edge, as prepared for Paper Input (see [chapter 5.1.](#)). Based on a sensor in the Paper Stop it is determined how much the tray plate needs to be lowered during the scan process. If this operating mode is used with slower scanner models equipped with HighSpeed Stacker Arms, then the paper transport speed will be kept at 300 ppm throughout, to ensure proper stacking below the stacker arms. The reduced paper throughput will be compensated by increased gaps between documents. On all models, very short documents will even be accelerated, during paper output. Because of the special stacking method used, this operating mode is not recommended for mixed document piles with large variation in document sizes and formats.

If the used model does not have a HighSpeed Stacker Arm or if the use of the stacker arm has been deactivated in the current scan-profile (see [chapter 4.6.4.2.2.](#)), we speak of a Open Output Mode. In this case, scanned documents are transported through the scanner and ejected into the output bin at the rated speed of the respective scanner model. The Stack Height Sensor (see [chapter 5.7.](#)) will



detect the height of the output pile and control the descent of the output hopper, in accordance. For this to work, a Document Stop needs to be present, in the output bin. For units equipped with HighSpeed Stacker Arms, the bar with the numerical scale needs to be removed from the middle section, first. This bar is kept in place with two magnets and can therefore be easily lifted out. Replacing the bar is facilitated by two spigots, on the bottom of the bar. These are simply aligned with matching holes in the middle section.

### Notice

For devices with HighSpeed Stacker Arm, make sure that before the Scanstart with HighSpeed Output of the Stacker Arm was folded downwards and for Open Output Mode it was folded upwards. Otherwise, a corresponding warning appears on the display of the scanner (see [chapter 9.1.4.](#)).

#### 5.7.4. Use of One Output Hopper



If the H12 unit is operated with one Output Hopper, all scanned documents are generally ejected into the corresponding Output Tray which are not sorted out by project-dependent settings into the Rear Output Tray. If the HighSpeed Output Mode is used (see [chapter 5.7.3.](#)), the Stacker Arm must be folded up to empty the Output Tray. The output tray is automatically lowered by the configured measure (see [chapter 4.7.5.3.](#)) and the paper stack can be easily removed. If the Stacker Arm is again folded down, the Output Tray initializes back to its uppermost position.



When using the Paper Stop (*under development*) the paper stack can be removed simply forward. The tray plate initializes back to its uppermost position just at the start of the next scan process.

If one Output Hopper in conjunction with the Dual Input Hopper (see [chapter 5.4.4.](#)) is used, its advantage of continuous processing can most likely not be accessed. An emptying of the Output Tray during the Input Tray changes is theoretically possible, but practically it requires a lot of practice.

### 5.7.5. Use of Two Output Hoppers

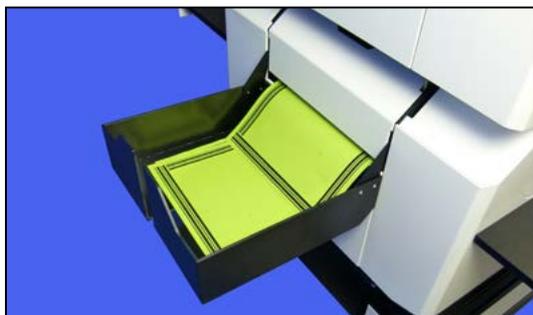
If the device has a 2nd Output Hopper, the Output of documents can be passed project-oriented in both Output Trays. The most common way here is the fixed assignment of a Output Tray for a Input Tray in conjunction with the Dual Input Hopper (see chapter 5.4.4.). However, various other scenarios are possible and reasonable.

Emptying the Output Tray is basically identical to the procedure for one Output Hopper (see chapter above). When using certain configurations of **Output** (see chapter 4.6.3.3.1./4.6.3.3.2.), however, after the change, the previously filled Output Tray is automatically lowered. Thus, the respective Stacker Arm needs no longer to be folded up and down manually to remove the paper stack. The Output Tray initializes back to its uppermost position as soon as this Output Hopper is reactivated.

#### **Please note**

*Documents ejected into the second output bin need to have a minimum length of 80 mm.*

### 5.7.6. Using the Rear Output Tray



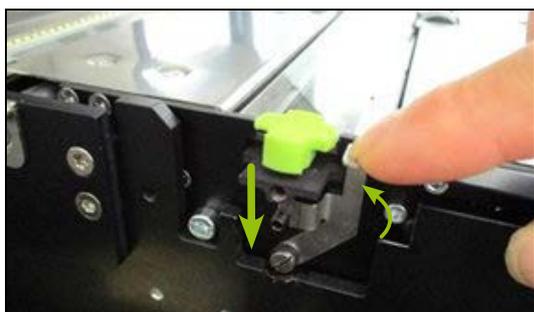
The Rear Output Tray that is attached to the rear panel, has no Paper Guides and is limited to a document length of about 30 cm. The ejected documents can be easily removed by the intervention on its back side. Primarily this should give the possibility to sort out individual documents from the actual paper stack, for example Patch code and bar code sheets or envelopes. For the projects designed for this purpose also the sort out of detected double-sheet inputs to maintain the scan throughput would be considerable. The exact instances when documents are ejected into the rear bin are defined by several options in the **Output** section (see chapter 4.6.3.3.) for each scan profile.

If longer than normal documents need to be ejected to the back, an optional, variable version of the rear output tray may be ordered (Order No. t8xxz340), which will accept documents of up to 62 cm in length. This tray has a slanted design, because of space considerations.

The Rear Output Tray can be removed and reattached easily for cleaning and maintenance purposes, or if it is not used. For this, you simply lift the hook-shaped extensions of the Output Tray from the designated holding pin on the back of the scanner or hang them there again.

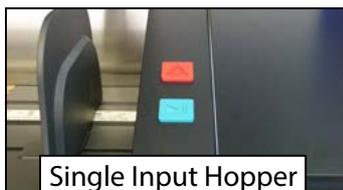
### 5.7.6.1. Straight Through Paper Path

Since documents that are ejected to the Rear Output Tray, are transported straight through the scanner, without deflection, we are talking here of a Straight Through Paper Pass. Especially in combination with the available option "Straight Through Paper Path Elevation" (see chapter 2.2.5.), the activation of which will allow raising the passage height up to 5 mm, in 4 discrete steps, this offers the possibility to process even very thick or inflexible material. If a scan profile is loaded with **Paper Path Elevation** (see chapter 4.6.3.1.2.) enabled, the complete top scanner housing will be raised accordingly, through motorized action. Depending on the elevation level specified this may take up to several seconds. During this time, a corresponding message (see chapter 9.1.10.) is displayed on screen, including a



reminder to lock the paper passage (see chapter 5.5.2.). If the option is installed, additional levers will be present, on **either** side of **each** Scan Background bar. Locking the paper passage is achieved by pressing the scan background inwards on either side and then pulling the respective lever upwards. After doing so, the Scan backgrounds are secured in their lowest position. After deactivating Paper Path Elevation, the scan backgrounds need to be released again. This is achieved by pressing the levers downwards.

## 5.8. Start / Stop of the Scanner



Single Input Hopper



Dual Input Hopper

To start or stop a scan process, there are various options in this scanner model. The easiest way is to use the provided hardware keys located on the Input Hopper right (*Single-Input Hopper*) or central (*Dual Input Hopper*).

The green button with the symbol ▶|| is designated button **Start / Pause**, while the red button behind is marked with the symbol ▲ and called button **Quick-Stop**.

In addition, in the scan screen (see [chapter 4.3.1.](#)) at the touchscreen a corresponding function key is displayed.

### 5.8.1. Start / Pause the Scan Process

Through the button **Start / Pause** ▶|| on the scanner the so-called batch scan is started. This process all documents in the Input Tray. When using the Dual Input Hopper, all documents are processed in the Input Trays mutually, until no new applied paper stack is inserted. Pressing the button again interrupts the current scan process. No further documents are drawn in. All documents that are still in the scanner are output.

An identical functionality includes the key **Scan Start** on the touch screen, but the label of the key will automatically switch to **Scan Pause** as a batch scan is started and after a new selection, for stopping the scan process, again to **Scan Start**.

If the scanner is controlled via a PC-based Scan software, the Scan process can be started and stopped using the functions available there. The scanner adopt the command of the scan software and switches to the appropriate mode. Ideally, this also works in the other direction and the scan software starts / pauses receiving data of the scan-PC as soon as the scan process on the scanner is started / interrupted. Whether the provided scan software supports such an approach may be obtained from the respective software partner or our software support.

### 5.8.2. Quick-Stop of the Scanner



With the red button **Quick Stop** ▲ at the scanner the scan process is immediately stopped. Means, all moving parts of the scanner are **immediately** stopped and documents that are in the scanner at this time will not be transported further. The adjacent error message of the scanner appears on the display. In addition to the key **OK** that closes the active error message, two different

**TRANSPORT** keys are available. The exact meaning and the use of these buttons is discussed in the section on general paper handling (see [chapter 9.2.](#)), which needs to be observed after a scanner Quick-Stop, in general.

#### **CAUTION**

*With an input error or paper jam, the documents must never be detained or forcibly pulled out of the scanner, as this may otherwise result in damage to the documents or to the input mechanism. In case of a paper jam, which would obviously result in damage to the documents, immediately stop the scanner via the **Quick-Stop** key ▲ and open the Scan Plane (see [chapter 6.1.](#)) to remove the valuable scripts.*

## 6. Opening the Scanner

To clear a paper jam or to carry out cleaning and maintenance work, it may be necessary to open the scanner or sporadically to remove covers. All opening options are displayed below in a graphical overview and their handling clearly explained in the next few chapters.



### 6.1. Opening/Closing the Scan Plane



The area with the highest access frequency is the Scan Plane area. The opening and closing of the Scan Plane is motorized and is performed by pressing the buttons Open **↑** and Close **↓**. These are located in the housing, in the front left next to the Output Tray. Opening the Scan Plane is possible in two steps. A short press on the button Open, raises the scanner upper part up to the first step. The resulting gap of a few centimeters allows easy removal of documents from the front scanning area in case of a feeder error or paper jam. Opening the Scan Plane to the first step is also possible using the **Open**

button that appears in case of some errors (see chapter 9.2.18. ff) and as a function button (see chapter 4.6.1.3.) on the scanner touchscreen. When the button Open **↑** is pressed permanently, the Scan Plane remains open as long as the button is pressed, or until it reaches its maximum point. To close the Scan Plane the button Close **↓** is pressed held until the Scanner Upper Section rests completely on the Scanner Lower Section.

#### Notice

If the scanner is equipped with a 2nd Output Hopper and the Output Hopper was previously opened (see chapter 6.2.2.), the function of the **Open** button in the housing and the touchscreen will be disabled for safety reasons.

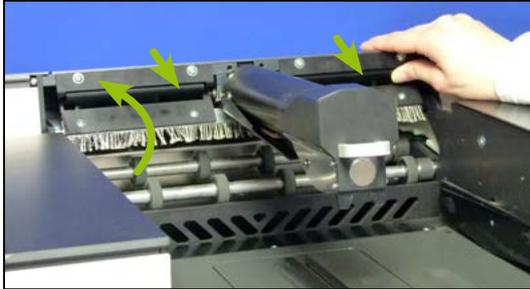
#### Warning

Before closing the Scan Plane, it is essential to ensure that no body parts or objects linger within the Scanner Lower Section and the Scanner Upper Section (see chapter 1.2.2.3.) when closed, in order to avoid injury or damage.

## 6.2. Opening/Closing the Output Hopper(s)

Since the procedure differs between the variant with two Output Hoppers and that equipped with one Output Hopper, we explain the opening/closing below...

### 6.2.1. ... with One Output Hopper



The Unlocking of the Output Hopper is located on the right and left of the paper ejection. If a HighSpeed Stacker Arm (see [chapter 5.7.2.](#)) is used, this is right in between. To open, one of the Unlocking buttons is pushed up and the top part of the Output Hopper folded backwards. To close, the top part is guided to the front and engaged with light pressure from above the lock.

### 6.2.2. ... with Two Output Hoppers

If the scanner is equipped with a 2nd Output Hopper, opening and closing of the 2nd Output Hopper is identical to the description in the previous chapter. Since the 2nd Output Hopper is placed on top of the Output Hopper and this is also folded up when opening the Output Hopper, the procedure for opening/closing the Output Hopper is different in this case.



Now the Unlocking of the Output Hopper is located in a grip depression that is integrated in the front left of the housing of the 2nd Output Hopper. To open, the Unlocking latch is pulled forward and the top of the Output Hopper, along with the attached 2nd Output Hopper is opened until resistance is felt, from point this part slides independently to the rearmost position. To close, guide the open part forward again until the lock snaps in place.

### **Warning**

*Before closing the Output Hopper with an attached 2nd Output Hopper, it is essential to ensure that within the area of the 2nd Output Hopper, on which the Output Hopper (see [chapter 1.2.2.3.](#)), rests, no body parts or objects linger in order to avoid injury or damage.*

### 6.3. Removing/Attaching the Cover Output Hopper

The change the print position of the Imprinter Back (see *chapter 8.2.*) and replace the corresponding ink cartridge, or to open the Intermediate Drive Unit (*next chapter*), the Cover Output Hopper on the back of the scanner must be removed first.



To remove the cover, pull the holder provided in order to release the cover from the magnetic holders and lift it out of the bottom-mounted suspensions. To attach, put the suspensions back to the appropriate pins and fold the cover upwards onto the magnetic holders.

An identical cover attached to the 2nd Output Hopper must be usually removed only for maintenance.

### 6.4. Opening/Closing the Intermediate Drive Unit

If the scanner is equipped with a 2nd Output Hopper, a short transport path is located between it and the Output Hopper, which, in the case of a paper jam in this area, can be reached only by folding the Intermediate Drive Unit. This is located below the Cover Output Hopper (*previous chapter*), which must be removed beforehand.



The Intermediate Drive Unit is locked on the left and right. To release, the locking pins must be pulled out. If they are thereby slightly turned, they remain in the unlocked position.



Now the Intermediate Drive Unit at the top can be folded out and thus allows you to access any jammed documents and stuck scraps of paper, staples or the like in this area of the transport path. To close, pull out the two locks again, completely folding in the drive unit and let the two latches to slide back again into the guides.

#### Notice

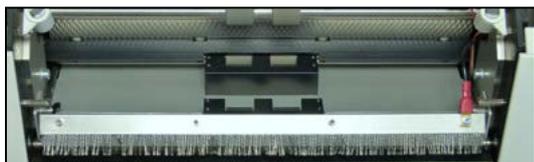
*If the Intermediate Drive Unit was not closed properly, this can lead to errors in the paper transport and to associated damage to the scanning material.*

## 6.5. Removing/Attaching the Base Cover

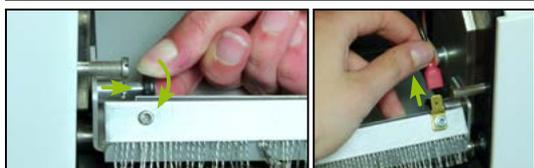


The Base Cover on the rear panel must be removed to gain access to the Rear Output (*next chapter*). For this, pull the cover on the top of the adjacent magnetic holders and lift out the bottom attached suspensions. To attach the Base Cover, attach the suspensions back to the appropriate pins and fold the cover upwards against the magnetic holders.

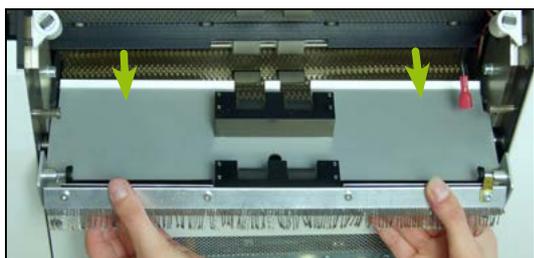
## 6.6. Removing/Inserting the Rear Output Pressure Unit



The Rear Output Pressure Unit is covered by the Base Cover. These must be removed first (*previous chapter*), the Pressure Unit is to be taken out in case of a fault or for cleaning.



The Rear Output Pressure Unit is fixed laterally with two locks. To unlock, these must be pulled out. If they are thereby slightly turned, they remain in the unlocked position. Additionally the grounding cable which is mounted on the right hand side has to be unplugged.



Now, the Pressure Unit can be pulled out at the rear in order to remove any jammed outputs or scraps of paper, staples or the like stuck in this area. To install, pull out the two locks again, push back the pressure unit to the designated place, allow the locks to slide back again into the guides and plug on the grounding cable again..

## 7. Cleaning and Maintenance

To achieve an optimum image quality and avoid excessive wear, it is important to keep the scanner free of dust and dirt.

The exterior of the scanner must be cleaned only with a lint-free cloth and clear water. To remove paper dust inside the scanner only proven dust brush or soft cloth should be used. At regular intervals dust and smaller particles (*bits of paper, staples*) should be vacuum-cleaned from the lower part of the scanner. A special vacuum cleaner is available under Order No: s 910 0020.

### **CAUTION**

*The use of compressed air to remove dust and hung-up paper scraps by "blasting" is strongly discouraged because the turbulence of particles cannot be controlled and therefore metal parts such as staples or the like, can come to rest on circuit boards or electrical connections. This can lead to damage of components and failure of the scanner. Damages of such origin are not subject to warranty!*

### 7.1. Cleaning Accessory



To be able to carry out the cleaning activities described in the following chapters, the devices of the H12 type are delivered with a Cleaning Accessory Set.

It is part of the Accessory Set H12 (see [chapter 3.1.](#)) and contains the most important utensils necessary for the maintenance of the scanner. If you want to order individual parts of the Cleaning Accessory Set, enter the corresponding order number from the content list of the Accessory Set H12.

The whipers are also available in a larger packaging unit under the following name:

- Whipers, white (20 pcs.).....e 901 0000

With the included tweezers stuck scraps of paper, staples, or the like can easily be removed from hardly accessible positions

## 7.2. Cleaning/Maintenance of the Paper Input

With an increasing number of processed documents, some parts in the scanner get dirty or worn out, and must be cleaned or replaced. This includes in particular the friction linings of the Input Rollers and the Separation Roller. This can be easily carried out by each operator that adheres to these instructions.

Since excessive dirt or wear of the Paper Input always result in increased level of feeder or double feed errors, the cleaning and maintenance involved is a demand-oriented activity by which the cycle is significantly influenced by the kind of documents to be processed.

### CAUTION

*To clean the linings, exclusively use the intended SCAMAX® SV1A Cleaning Solution for Rubbers & Belts. The use of other solvents such as benzene, acetone, or the like can cause damage to the linings.*

*Since SCAMAX® SV1A Cleaning Solution for Rubbers & Belts contains solvent, the contact with sensitive surfaces must be avoided, as these might otherwise be damaged.*

### WARNING

*SCAMAX® Cleaning Solution for Rubbers & Belts is flammable and removes fat. Keep smoking and naked flames away. For sensitive skin protective gloves should be worn. These are contained in two different sizes in the cleaning kit. The warning labels on the containers of the cleaning fluid must be observed!*

### Notice

*It is recommended to put the roller linings **at the earliest** 10 minutes after cleaning in operation, otherwise solvent residues of the used Cleaning Solution for Rubbers & Belts still adheres on the linings. An application in "wet" state leads to more rapid dirt accumulation of the linings due to increased ablation of ink- and toner residues and dust.*

### 7.2.1. Cleaning the Feeder Roller Friction Linings-



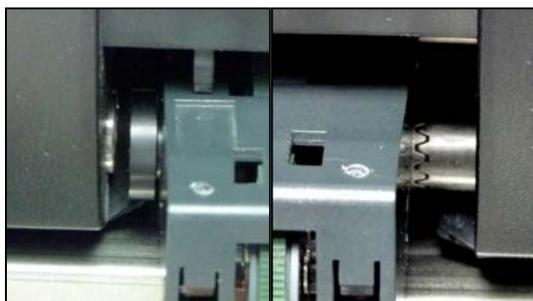
For the cleaning or replacement (*next chapter*) of the Feeder Roller Friction Linings, it is necessary to remove the Roller Assembly. For this, a unlocking for the holder is attached on the left next to the Roller Assembly. To dismantle the unlocking pin is pushed to the left and held in this position while the Roller Assembly is swung out to the right.



To remove the Input Rollers, the Assembly is taken in hand with the rollers upwards and the two locking hooks forward. Now press both hooks in succession forward while gently pressed from below with the finger against the Input Roller so that the Housing Roller Assembly can be unfolded.



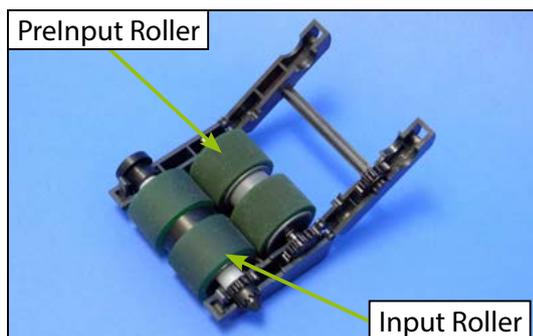
To clean, a lint-free cloth is soaked with some SCAMAX® SV1A Cleaning Solution for Rubbers & Belts and thus rubbed over each lining of the two Input Rollers until the adherent dirt is removed and the lining has a good grip again. After that, allow the Input Rollers to dry at least 10 minutes, then put them back into the Housing Roller Assembly and lightly press the two housing halves together until both locking hooks engage into place.



To install the Assembly, the unlocking pin, as described at the beginning of this chapter, pushed to the left and held firmly. Now insert the Roller Assembly in a possibly horizontal alignment with the right spur gear first, onto the counterpart on the drive shaft and then swivel the left side, so that the rotating ring of the bracket when returning the unlocking pin slides into the left, plate-shaped receptacle of the Roller Assembly.

If the Input Roller assembly is missing or if it has been improperly installed, a corresponding error message (see [chapter 9.1.3./9.1.14.](#)) will be shown on the scanner's display.

## 7.2.2. Replacing the Feeder Roller Friction Linings



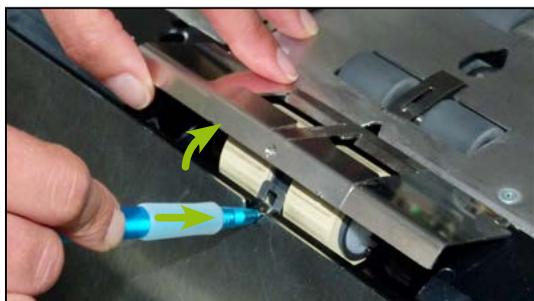
If occurring feeder error (see [chapter 9.2.7.](#)) due to wear and can no longer be fixed by cleaning the linings as described in the previous chapter, then the Feeder Roller Friction Linings should be replaced. It may already be enough to replace the linings of the PreInput Roller, that are subject to greater wear, with new linings, or to exchange it with the linings of the Input Roller, if identical lining types (see [chapter 5.3.2.](#)) are used. The exchange must always be in pairs.



For the exchange of linings the Roller Assembly must first be removed and opened as described in the previous chapter. Now take the respective Input Roller from the housing and pull off existing linings laterally, left and right from the roller and fit the new linings on until they are completely in the designated area of the roller. Because of the flexible material of the linings both removal as well as fitting on the linings is possible without special force application. After exchange of the linings, place the Input Rollers into the housing, close this and

install it in the scanner, as described in the previous chapter.

### 7.2.3. Cleaning the Separation Roller Friction Linings



A rising level of Double Feed Inputs (*see chapter 9.2.14.*) is often a sign that the Separation Roller Friction Linings should be cleaned. To do this, open the Scan Plane of the device (*see chapter 6.1.*) as much as necessary and press with a pen or the like on the lock of the Cover Separation Roller to fold it open. Now the Separation Roller can be removed easily from its holder.



To clean, a lint-free cloth is soaked with some SCAMAX® SV1A Cleaning Solution for Rubbers & Belts and thus rubbed over each lining of the Separation Roller until the adherent dirt is removed and the lining has a good grip again. Then let the Separation Roller to dry for at least 10 minutes



For installation, slide the Separation Roller with the lateral guides back to the holder, close the Cover Separation Roller and lock it up with light pressure.

### 7.2.4. Replacing the Separation Roller Friction Linings

For the exchange, the Separation Roller must be removed beforehand as described in the previous chapter. Since there is a much harder material used for the linings of the Separation Roller as for



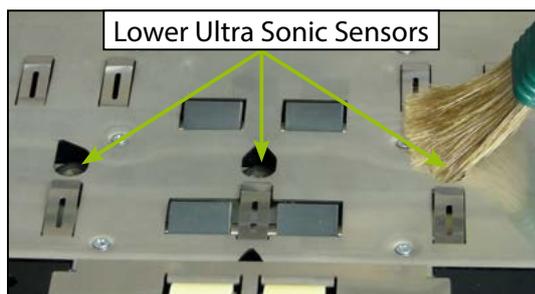
the Feeder Roller Friction Linings (*see chapter 7.2.2.*), It is necessary to press the linings with your thumb around, outwards over the bead of the plastic carrier before they can be pulled sideways. When sliding the new linings (*see chapter 3.1.*) it must be ensured that they are completely on the roller in the guides. The installation of the Separation Roller is carried out again as described in the previous chapter.

## 7.3. Cleaning/Maintenance of the Scan Plane

Since paper and ink get deposited in the device during scanning, but partly also small paper parts and other residues, it makes sense that the Scan Plane and some specific areas are cleaned periodically. The frequency per area is dependent on the kind of documents to be processed. To do this, use only the supplied cleaning devices or vacuum cleaner meant for this. **Never use compressed air! You should also refer to the note in chapter 7.**

For cleaning activities in the Scan Plane, it should always be completely open (*section 6.1.*). To clean the area, wiping the surfaces with the supplied Swiffer® Dusters™ Cleaner Kit or a soft cloth is sufficient. If adherent residues are on the sheet metal parts within the scan plane (*e.g. adhesive*), this may be removed with the SCAMAX® SV1A Cleaning Solution for Rubbers & Belts.

### 7.3.1. Cleaning the Ultra Sonic Sensors



Since the Ultra Sonic Sensors for Double Feed Detection in the front area of the Scan Plane are fitted somewhat lower, it is especially important for the lower sensors that they tested at regular intervals for deposits and most easily cleaned using the dusting brush (see chapter 3.1.). If the sensors are too dirty or there are residues on them, this could lead to incorrect Double Feed Detections.

### 7.3.2. Cleaning the Scan Areas



The Scan Areas for front and back side, as the respective Scan Background, are covered dust-protected with very scratch-resistant Glass Guides. Therefore surface cleaning of the Glass Guides with the supplied Swiffer® Dusters™ Cleaner Kit or a soft cloth is normally sufficient. Should adherent residues be on the Glass Guides, these should be removed with SCAMAX® Cleaning Solution for Optics.

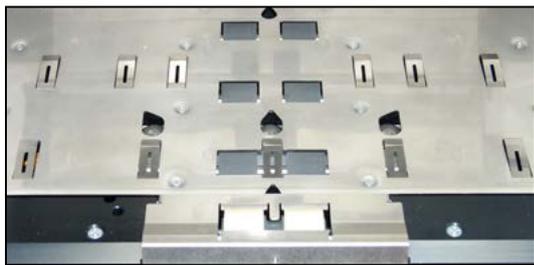
### 7.3.3. Vacuum Cleaning Below the Scan Plane

As mentioned at the beginning of the main chapter, accrued dust and other impurities should be sucked from the scanner at intervals basis (*vacuum cleaner - Order No: s 910 0020*).



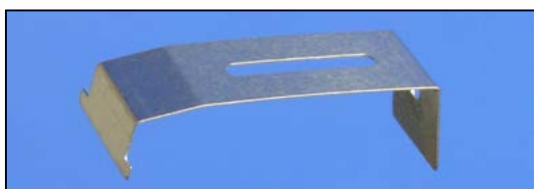
Since most residues deposit at the beginning of the paper transport path as experience has shown, the area below the Scan Plane thereof is mostly affected. In order reach this point, the Front Pressure Unit, the area between feeder and scan areas, must be removed. To do this, the Pressure Unit is lifted behind on the side-mounted retaining brackets and then it is removed completely from its holder. Since this is a metal part, a small force is needed. Now, using the dust brush, sweep the accumulated paper or ink dust and scraps of paper, staples or the like from the visible areas and vacuum clean. It should be ensured that the existing connections are not detached or damaged by mistake during the cleaning process. Then install the Pressure Unit again by being taken with the brackets and first lodged with the leading edge into their holder.

### 7.3.4. Maintenance/Replacement of the Paper Guide Springs

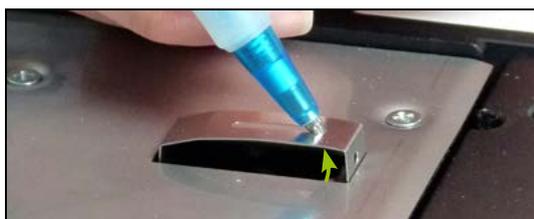


In the frontal pressure unit, which is located between the paper input and the scan areas, you will find two rows of Paper Guide Springs. These springs serve two purposes, they are necessary for the correct functioning of the optical sensors and they also stabilize documents, while these are passing through the printing region of the *Imprinter Front*. Identical Paper Guide Springs will also be found in the printing region of the *Imprinter*

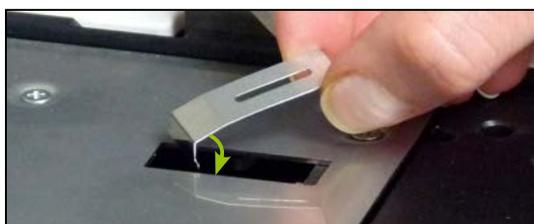
**Back.** Because of the constant passing of scan documents or as the result of a major paper jam, it can happen that individual springs become soiled or damaged. Dust and dirt may easily be removed by cleaning the springs with a cloth and some SCAMAX® SV1A Cleaning Solution for Rubber+Belts. However, if the spring's surfaces have suffered (*through abrasion*) or if their shape has changed (*due to bending*) they will need to be replaced. This is particularly true for the springs located opposite the optical sensors.



The Paper Guide Springs are kept in place by means of a locking device that engages in the hole on the front side of the spring and lateral webs on the rear side of the spring. The following procedure describes the replacement of a paper guide spring in the area of the optical sensors. The procedure in the imprinter area is the same.



To remove, the front part of the paper guide spring must be carefully levered out of the lock, possibly with the aid of a suitable tool. The paper guide spring can then be removed by turning it slightly. During installation, insert the rear part of the paper guide spring with a slight twist into the opening provided. Then, press the front part down into the opening until the locking device engages in the hole. If handled carelessly, the paper guide spring can easily fall into the opening. We therefore recommend removing the front pressure unit before replacing it, as described in the previous chapter.



#### Note

*The paper guide springs in the front row serve as reference surfaces for the optical sensors. If one or more of these springs are replaced, a calibration (see chapter 4.7.2.3.) of the sensors must be carried out in order to avoid faulty signals during scan operation.*

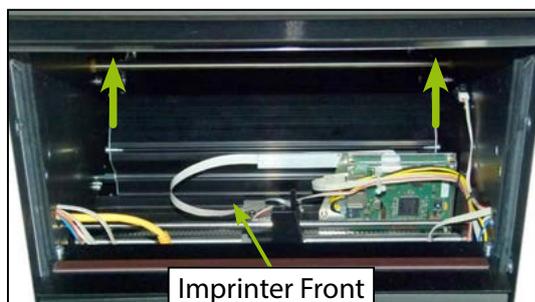
## 8. Imprinter

Through the two integrated imprinters it is possible to print the front and/or back of the scanning material with a variety of information. The imprinters supplied in standard configurations will only print single rows in the direction of scanning, while the optional HD versions are able to print up to four lines or text in different text heights. They will even print the information in the form of bar codes, if required. However, a mixed operation of standard imprinter and HD imprinter in one device is technically not possible.

The used imprinters operate completely independently of each other and can therefore print different information at different times (*events*). The configuration of imprinter texts and the printer control is performed within the Profile Management (see [chapter 4.6.6.1](#)).

### 8.1. Imprinter Front (Before Scanning)

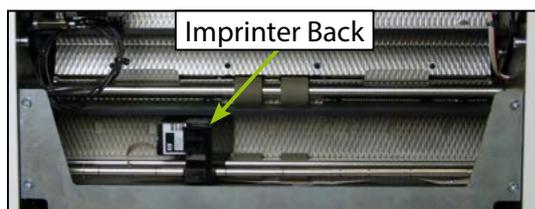
As can be seen in the chapter heading, information can be applied to the front of the scan documents with the Imprinter Front **prior to** scanning. This also means that these printed information can also be seen on the images of the scanned documents. If not desired, the Imprinter Back (*next section*) should be used instead.



The Imprinter Front is located behind the gaiter mounted between the document feeder and the output tray. This is kept at the bottom by a magnetic tape and can be pushed up in order to obtain access to the Imprinter Front. For this purpose, the Output Tray should be in the top position. When lowering the gaiter it must be ensured that they run laterally in the guide rails again.

### 8.2. Imprinter Back (After Scanning)

In contrast to the Imprinter Front, the Imprinter Back is printing the information only on the rear side of the documents after scanning so that the information cannot be seen on the images of the scanned documents.



The Imprinter Back is located on the rear panel of the device, below the Cover Output Hopper (see [chapter 6.3](#)), which must be removed to gain access to this Imprinter.

#### Notice

Due to the structural arrangement of the Imprinter Back, documents that are deposited in the Rear Output Tray (see [chapter 5.7.6](#)) can not be printed on the back side.

### 8.3. Ink Cartridge of the Imprinter



Both available Imprinter types use conventional ink jet cartridges from Hewlett Packard, which are available in different inks. These ink cartridges are characterized by high reliability, ease of use and worldwide availability. The ink cartridge of the imprinter types installed by default has the Manufacturer no. **C6602A** and is mounted in each case in a spring-loaded holding device. The left image shows the mounting of the Imprinter Front.



In the case of the optional HD-Imprinters, ink cartridges of type **HP337** (Hersteller-Nr. **C9364E**) are used. The holder for this imprinter type uses a SnapIn fixture, which is also used in many common HP printers. The green hood with the two spigots above the fixture covers a control board, which is required for the correct operation of the HD imprinter. The picture to the left shows the Imprinter Back HD.

#### 8.3.1. Installation/Change of an Ink Cartridge

To remove and install the ink cartridge of an Imprinter, first the access to the respective holder has to be established (see chapter 8.1. / 8.2.).



In case of using the default imprinter types, hold the ink cartridge on the provided plastic tab and detach it laterally from its bracket. Now, the ink cartridge can be removed. The insertion is carried out in reverse order. Here, it must be ensured that the suspension bracket is locked properly.



At the Imprinter Back, the ink cartridge holder must be moved completely right on its guide rods and lifted from the subsoil by a slightly pull of the outer guide rod **prior** to remove or insert the ink cartridge like described above.



Both HD imprinters are mounted on two guide rods which are attached to movable side plates. Use the holding pins of the green cover to install and remove the ink cartridges. In case of the Imprinter Front HD, the cartridge is lifted upwards, whereas in case of the Imprinter Back HD, it is swung outwards.



In either case, the ink cartridge is removed by grasping one of the plastic tabs and pulling it out of the holder, sideways. When replacing the ink cartridge, please make sure that it engages correctly in its holder.

### Notice

*If the ink cartridge is removed in order to replace it with a new one, this must be done with an active device, so that the level can be reset. After inserting the ink cartridge a prompt appears on the display with the opportunity to put the ink reservoir again at 100% via a button, thereby indicated the use of a new ink cartridge or to keep the amount of ink on the current value, when the ink cartridge, for example to control or clean, was removed and reinstalled. The current value is also shown in the message, for informational purposes.*

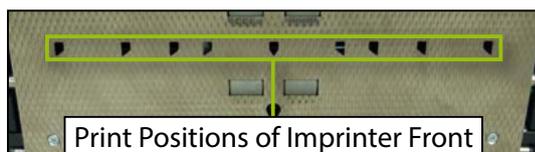
### 8.3.2. Capacity of the Ink Cartridges

Based on the amount of printed information, the amount of ink consumed is calculated (in droplets) per Imprinter and recorded and thus the remaining ink levels are saved. This can be determined at any time, using the Scanner-Info (see chapter 4.1.3.). If the amount of an ink cartridge falls below 10%, a corresponding warning appears in the display (see chapter 9.1.13.). As the amount of ink fluctuates slightly due to production, it can happen that an ink cartridge despite specifying an ink quantity of 0% still prints or is already empty, although the amount is above 0%.

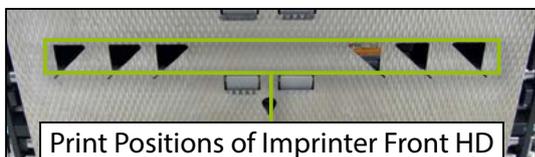
The achievable number of printable characters per ink cartridge varies, depending on the different imprinter types. For the imprinters supplied in standard configurations, the original ink cartridges contain **16.5 g** of ink. When using the standard font, this will last for approx. **2 million** characters.

In the case of the HD imprinters, however, there are additional dependencies. With the **11 ml** ink quantity (according to the manufacturer), approximately **3 million** characters can be printed in a single-line height at a resolution of **300 dpi**. Increasing the resolution to **600 dpi**, however, reduces the number of characters by half, i.e. to about 1.5 million characters, and using the highest resolution halves the number again, to about **750,000** characters. Increasing the line height per character also reduces this number, to about **half** the number (**1.5 million**) for two-line height, to one **third** (**1 million**) for three-line height, and to one **quarter** (**750,000**) for four-line height. In the interest of moderate ink consumption, it is therefore advisable to exactly determine the necessary size and quality of HD imprinter printouts, in each case.

## 8.4. Choice of Print Position



Both default Imprinters have **nine** different horizontal print positions, of which one is in the middle and the remaining eight are left and right in the edge region of the DIN formats A6, A5, A4 and A3. .

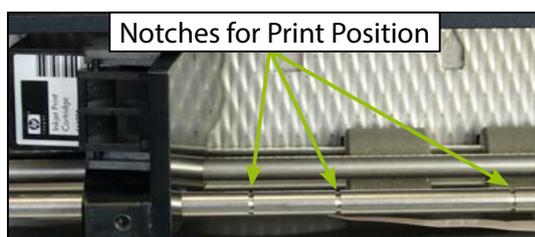


In the HD version, due to the enlarged printing area, there are **six** print positions for the Imprinter Front and **seven** for the Imprinter Back. In case of the Imprinter Front, three positions are located on the left side and three on the right side. In the case of the Imprinter Back, there is an additional print position in the center.



These print positions are also marked on the scale(s) in the Input Hopper(s) with the script **ABC** in order that, if necessary, to adjust the document path to the selected printing position with the present Paper Guides. (see

*chapter 5.4.2. / 5.7.1.*). Because the different printing positions, input hopper(s) of scanners shipped with optional HD imprinters will be fitted with an alternative, matching scale.



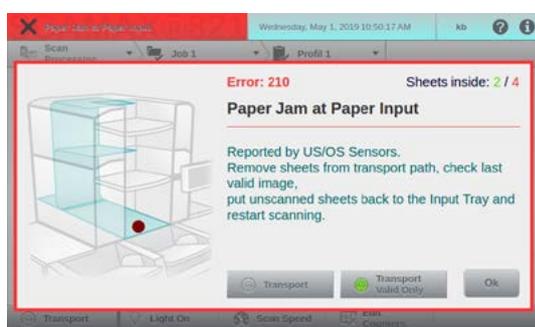
The holder of the ink cartridge for the two imprinters runs on two guide rods on which it is manually adjustable. In order to always position the ink cartridge exactly above the desired pressure port, one of the respective guide rods is provided with notches into which the print cartridge locks in audibly. Due to its size, it is absolutely necessary to lift the Imprinter Front HD, when moving it from the left to the right side.

## 9. Disruptions

When using high-performance scanners, disruptions may at any time suddenly occur and lead to different warning or error messages. With H12 type scanners, the cause is determined as precisely as possible by high-performance sensors and a meaningful message is issued with partial graphic on the scanner display. Such messages can be reduced into the top left status area by tapping on a display area outside of the message window. Tapping the status area with a message opens the corresponding message box. The message box contains the associated warning or error number in the first line. Since, especially in the event of an error, the same message can have various causes, the error number is of great importance for a precise analysis in support calls.



Warning messages are always displayed **yellow** and partly initially only in the status area. They can be highlighted by internal routines, or by conditions that would prevent a subsequent Scanstart. A warning is automatically cleared when the underlying cause has been completed or corrected.



Error messages are always displayed in the display area, in conjunction with **red** colored status area. During scanning, an error message is always accompanied by the interruption of the scanning process. In addition to the error number, the short description of the error and its correction, the message box often contains a graphical representation on the left side (*with contrasting paper path*). The area in which the error occurred, is marked by a red dot. Bei bestimmten Fehlern kann oben rechts auch die Angabe von gültigen/ungültigen Blättern im

Transport (see [chapter 9.2](#).) enthalten sein. An error message may, depending on the cause, contain function button, and must be closed with the **OK** button after removing the cause. Error messages without **OK** button represent an unrecoverable state that can only be corrected by restarting the scanner. If errors are not be remedied by the measures specified in each case, the service engineer or technical support of InoTec GmbH (see [chapter 10.3](#).) is to be notified.

### 9.1. Warning Messages

Various warning messages are pointed out below, which can occur during device initialization or handling of the scanner.

#### 9.1.1. Scanner Open (Warning 100)



This warning will be displayed first only in the status area upon occurrence and means that the Scan Plane of the scanner is not properly closed. To eliminate the warning, the Scan Plane must be properly closed (see [chapter 6.1](#).). Trying to start a scan process in this state, leads to a similar error message (see [chapter 9.2.1](#).).

### 9.1.2. (2nd) Output Hopper Open (Warning 101/102)



These warnings appear initially only in the status area, meaning that the Output Hopper or the 2nd Output Hopper is not closed properly. To eliminate the respective warning, the Output Hoppers must be properly closed (see [chapter 6.2.](#)). Trying to start a scan process in this state, leads to a similar error message (see [chapter 9.2.2.](#)).

### 9.1.3. Roller Assembly Incorrectly Installed (Warning 103)



This warning appears initially only in the status area and means that the Roller Assembly was not installed correctly. To eliminate the warning it must be proved whether the Roller Assembly is properly seated in its holder (see [chapter 7.2.1.](#)). Trying to start a scan process in this state, leads to a similar error message (see [chapter 9.2.3.](#)).

### 9.1.4. (2nd) HS Stacker Arm in Wrong Position (Warning 104/105)



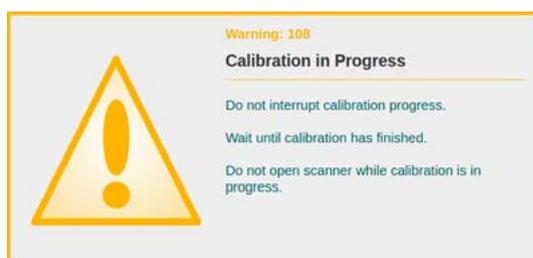
These warnings appear initially only in the status area, meaning that the concerned HighSpeed Stacker Arm is not in the position required to operate the current output mode (see [chapter 5.7.3.](#)). To eliminate the respective warning the concerned HighSpeed Stacker Arm must be folded in the required position. Trying to start a scan process in this state, leads to a similar error message (see [chapter 9.2.4.](#)).

### 9.1.5. Cartridge Imprinter Front/Back Undetected (Warning 106/107)



These warnings are displayed only when a print text has been defined for the Imprinter Front or Back, in the current scan profile and its ink cartridge is not available. In order to eliminate the warning, the right seat of the respective ink cartridge must be tested (see [chapter 8.3.1.](#)). Trying to start a scan process in this state, leads to a similar error message (see [chapter 9.2.5.](#)).

### 9.1.6. Calibration in Progress (Warning 108)



This warning means that the scanner is currently in a calibration process. In this state, the device may not be opened or turned off. The warning disappears as soon as the calibration is complete. If the calibration failed, an error message appears (see [chapter 9.2.17.](#)).

### 9.1.7. (2nd) Output Tray Full (Warning 109/110)



These warnings mean that the Output Tray of the Output Hopper or the 2nd Output Hopper has reached its maximum tray height (see [chapter 5.7](#)). To eliminate the warning, the documents must be removed from the concerning Output Tray. Trying to start a scan process in this state, leads to a similar error message (see [chapter 9.2.6](#)).

### 9.1.8. Base Cover Opened (Warning 111)



This warning appears initially only in the status area, pointing out that the Base Cover is not properly closed. To eliminate the warning, it must be checked whether the Base Cover is installed properly (see [chapter 6.5](#)). Trying to start a scan process in this state, leads to a similar error message (see [chapter 9.2.24](#)).

### 9.1.9. Cover Output Hopper (Top) Opened (Warning 112/113)



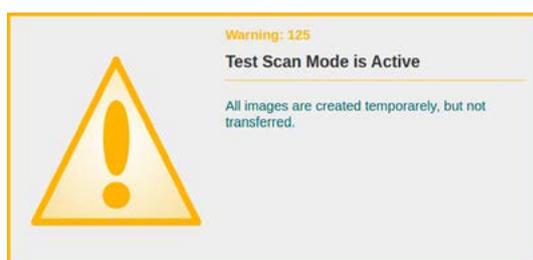
These warnings appear initially only in the status area and point out that the Cover Output Hopper or 2nd Output Hopper is not properly closed. To eliminate the respective warning, it must be checked whether the appropriate Cover is installed properly (see [chapter 6.3](#)). Trying to start a scan process in this state, leads to a similar error message (see [chapter 9.2.25](#)).

### 9.1.10. Changing Straight Through Paper Path (Warning 114)



These warnings appear as long as the "Straight Through Paper Path Elevation" option (see [chapter 4.6.3.1.2](#)) is enabled or disabled, as the raising or lowering of the Scan Plane lasts a few seconds. A scanning process cannot be started during this process.

### 9.1.11. Test Scan Mode is active (Warning 125)



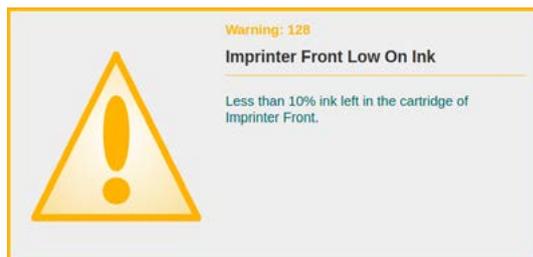
This warning is initially displayed in the status area and indicates that TestScan mode has been entered. TestScan mode may be initiated and cancelled using the **TestScan** function button (see [chapter 4.6.1.3](#)). For as long as TestScan mode is active, a connection to an external scan software cannot be established.

### 9.1.12. Rear Output Active (Warning 127)



This warning will be displayed if the paper-guide was pointing to the rear-output tray, during a paper jam. Paper jams should always be resolved according to the General Paper Jam Handling (see [chapter 9.2](#)). Therefore, this warning only serves as a hint, indicating that documents might have been mistakenly ejected into the rear paper tray, when the paper path was flushed.

### 9.1.13. Imprinter Front/Back Low On Ink (Warning 128/129)



This warning is initially displayed in the status area when the ink cartridge level drops below 10%. Since the fill level of the ink cartridges for the imprinters is merely calculated by subtracting the amount of ink used so far from the initial ink volume claimed by the manufacturer (see [chapter 8.3.2](#)), the imprinter output should be checked as soon as this warning occurs and a new cartridge inserted, if necessary.

### 9.1.14. Roller Assembly Not Installed (Warning 130)



This warning is initially only displayed in the status area and indicates that the input roller assembly has not been detected. In order to clear this warning, the input roller assembly must be properly inserted into its holder (see [chapter 7.2.1](#)). If an attempt is made to start a scan process in this state, another, similar error message will be displayed (see [chapter 9.2.3](#)).

### 9.1.15. Input Tray(s) Not Installed Properly (Warning 133)



This warning is initially only displayed in the status area and indicates that the input plate or, when using the **Dual Input Hopper**, one of the input plates is not correctly inserted in the respective input tray (see [chapter 5.4.1](#)). In order to clear the warning, existing input plates must be checked for proper seating and corrected, if necessary. If an attempt is made to start a scan process in this state, another, similar error message is displayed (see [chapter 9.2.23](#)).

## 9.2. Error Messages

In the following various error messages are shown, which may occur during device initialization or handling of the scanner.

Especially with paper jam messages that are determined by the continuous transport path sensors, it should be noted that the reported jams are often not actual jam error, but a document that got stuck in the transport possibly only briefly. This type of scann issue can be usually eliminated without opening the scanner.

Documents that are still in the transport path must be transported out, as this will cause subsequent errors. Independently of the nature of the reported paper jams, please note the following **General Paper Jam Handling** after fixing according to its position and before anew Scanstart:

1. Generally, the information **Sheets inside** is displayed with a green and a red number in the upper right corner of the paper jam message. The green number stands for documents whose images have already been completely created and which are thus classified as **valid**. The red number indicates the number of documents still in the transport mechanism that are not yet valid and must therefore be processed again. If the green number is greater than 0, the **Transport Valid Only** key is activated within the error message. When operated, this starts the paper transport for as long as the key is pressed and until all **valid** documents have been ejected. Once this is the case, the key becomes inactive and the remainder of the documents can now be ejected via the adjacent **Transport** key. This button, too, only activates paper transport for as long as the key is pressed. This way, documents stuck in the scanner can be largely protected from damage. All documents that are ejected via the **Transport** button have not yet been processed and must be scanned again.
2. If the option **Sheet Not Valid until Output** is activated in the current scan profile (see chapter 4.6.4.2.5.), any information about sheets still located in the transport mechanism (as described above) is not available. Therefore, all images of documents still in the paper transport path at the time when the error occurred will be discarded. As far as possible, these documents may be ejected using the available **Transport** key and must all be resubmitted for processing.
3. If a document has audibly jammed and/or the documents cannot be ejected using the available transport keys, the scanner must be opened and the jammed document removed in accordance with the instructions in the respective paper jam message. The remaining documents can then be transported out as described above. The scan screen or the attached scan software must be used to determine the last document that has been processed correctly. All subsequent documents must be returned to the input tray..

### 9.2.1. Scanner Opened While Scanning (Error 200)



This error is displayed when the Scan Plane has been opened on the device during scanning or it was not properly closed at Scanstart. To fix the error, the Scan Plane must be properly closed (see chapter 6.1.). Before anew Scanstart, documents that may still be in the transport passage must be removed, since otherwise subsequent errors occur.

### 9.2.2. (2nd) Output Hopper Open (Error 201/202)



These errors are displayed when the Output Hopper was opened during scanning or the 2nd Output Hopper was not properly closed at Scanstart. To eliminate the error, the Output Hoppers must be properly closed (see [chapter 6.2.](#)). Before anew Scanstart, all documents that may still be in the transport passage must be removed, since otherwise subsequent errors occur.

### 9.2.3. Roller Assembly Incorrectly Installed (Error 203)



This error is displayed when on the device during the scanning process, the Roller Assembly has jumped from its holder or an attempt was made to start a scan process while the Roller Assembly was not installed correctly. To fix the error, it must be checked if the Roller Assembly sits correctly in its holder (see [chapter 7.2.1.](#)). Before anew Scanstart, all documents that may still be in the transport passage must be removed, since otherwise subsequent errors occur.

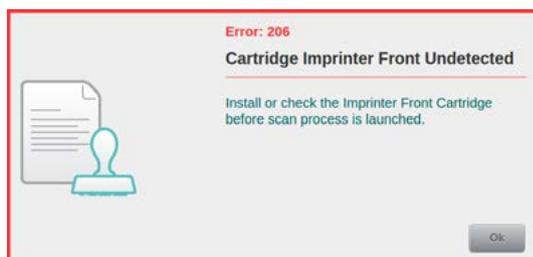
### 9.2.4. (2nd) HS Stacker Arm in Wrong Position (Error 204/205)



These errors are displayed when a scan process was started and the corresponding HighSpeed Stacker Arm was not in the position to operate the current output mode (see [chapter 5.7.3.](#)), or it was folded from the required position during operation. To eliminate the respective error, the respective HighSpeed Stacker Arm must be folded in the required position. Before anew Scanstart, all documents that may still be in the transport

passage must be removed, since otherwise subsequent errors occur.

### 9.2.5. Cartridge Imprinter Front/Back Undetected (Error 206/207)



These errors are displayed only when the loaded scanner setting provides for use of the respective imprinter and its ink cartridge is not available at Scanstart. In order to eliminate the respective error, the right seat of the respective ink cartridge must be tested (see [chapter 8.3.1.](#)), before the scanning process can be started again.

### 9.2.6. (2nd) Output Tray Full (Error 208/209)



These errors are displayed when the Output tray of the Output Hopper or the 2nd Output Hopper has reached its maximum tray height (see [chapter 5.7.](#)). To eliminate the respective error, the documents must be removed from the concerning Output Tray before scan process can be started again.

### 9.2.7. Paper Jam at Paper Input (Error 210)



This error indicates a paper jam that occurred in the input area. This is the case when a document could not be properly drawn in by the Roller Assembly. To correct the error, proceed according to General Paper Jam Handling (see chapter 9.2.). For this, it may be necessary to raise the Scanner Upper Section to the first stage (see chapter 6.1.) to remove the jammed scan material. After closing the Scan Plane the scan process can be restarted.

#### Notice

*This error code may also appear when glossy documents are processed (i.e. documents with a highly reflective surface across their full width, such as glossy prints or documents with a strip of adhesive tape across them). In order to prevent this, the optical sensors can be ignored for paper input detection. This may either happen for the next document in line, using the special function button **Opt. Gap Next Off** (see chapter 4.6.1.3.), or permanently, if a certain proportion of all incoming documents has a glossy surface (see chapter 4.6.4.2.8.).*

### 9.2.8. Paper Jam at Scan Area (Error 211/237/238/239/240)



These errors indicate a paper jam that has occurred within the scan area. To correct the error, proceed according to General Paper Jam Handling (see chapter 9.2.). For this, it may be necessary to lift the Scanner Upper Section (see chapter 6.1.) until the jammed scan material can be removed from the Scan Plane. After closing the Scan Plane the scan process can be restarted.

### 9.2.9. Paper Jam at Rear Output Area (Error 212)



This error indicates a paper jam occurred in the rear Output area. To correct the error, proceed according to General Paper Jam Handling (see chapter 9.2.). For this, it may be necessary to lift the Scanner Upper Section (see chapter 6.1.) until the jammed scan material can be removed from the Scan Plane. Under certain circumstances also the Rear Output Pressure Unit must be removed (see chapter 6.6.). After closing the Scan Plane the scan process can be restarted.

### 9.2.10. Paper Jam at Lower/Upper Transport Path (Error 213/214)



This error indicates a paper jam that occurred in the displayed transport area. By "lower" the transport area between the Scan Plane and Output is meant, with "upper" the transport area between the lower transport area and 2nd Output. To correct the error, proceed according to General Paper Jam Handling (see chapter 9.2.). For this, it may be necessary to open the respective Output Hopper (see chapter 6.2.), so that the jammed scan material can

be removed from this part of the transport area. For jamming in the upper transport area it may also be necessary for this purpose, to open the Intermediate Drive Unit (see chapter 6.4.). After closing all opened areas the scan process can be restarted.

### 9.2.11. Paper Jam Before (2nd) Paper Output (Error 215/216)



These errors indicate a paper jam, which occurred prior to the paper outputs. To eliminate the respective error, proceed according to General Paper Jam Handling (see [chapter 9.2.](#)). For this, it may be necessary to open the corresponding Output Hopper in question (see [chapter 6.2.](#)), so that the jammed scan material can be removed from this part of the transport area. After closing the respective Output Hopper the scan process can be restarted

### 9.2.12. Paper Jam Inside (2nd) Output Tray (Error 217/218)



These errors indicate a paper jam that has occurred within the designated Output Tray. These errors can only occur when the HighSpeed Stacker Arm (see [chapter 5.7.2.](#)) is used because due to a fault in the Highspeed Output Mode, the Jam Sensor (Error 217/218) respectively at the Open Output Mode (see [chapter 5.7.3.](#)), the sensor inside the Paper Stop (Error 258/259) of the relevant Stacker Arm has triggered. To eliminate the respective error, the

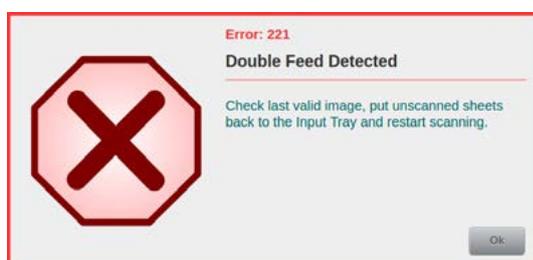
documents in the tray in question must be well arranged. Before anew Scanstart, proceed according to General Paper Jam Handling (see [chapter 9.2.](#)).

### 9.2.13. Paper Jam Inside (2nd) Output Tray (Error 219/220)



These errors indicate a paper jam that has occurred within the designated Output Tray. These errors are caused by the fact that documents in the corresponding Output Tray have slipped under one of the lateral Paper Guides while tray plate was lifted (see [chapter 5.7.1.](#)). To eliminate the respective error, the documents in the tray in question must be well arranged. If the error occurred while scanning, proceed according to General Paper Jam Handling (see [chapter 9.2.](#)) before anew Scanstart.

### 9.2.14. Double Feed Detected (Error 221)



This message appears when a double feed was detected during the scan process and the Reaction at Detection (see [chapter 4.6.4.1.3.](#)) is set to **Error** or **Transfer**. In this case, the last valid scanned document is to be determined via the Image Display or in the connected scanning software. The following documents, which have caused the double feed error, are to be put back into the Input Tray before the scanning process is started anew.

### 9.2.15. Button Quick-Stop Pressed (Error 222)



This message appears when the red button **Quick-Stop** (see chapter 5.8.2.) at the Input Hopper has been pressed. In this case, the reason for the Quick-Stop is to be eliminated and before anew Scanstart, proceed according to General Paper Jam Handling (see chapter 9.2.). A **Quick-Stop** during an input tray change (see chapter 5.4.4.) will cause re-initialization of the Dual Input Hopper, after the **OK** key has been pressed.

### 9.2.16. Switch Input Hopper Failed (Error 223)



This error is displayed when the Input Tray change failed at a device with Dual Input Hopper. This happens when there are obstacles in the movement area of the Dual Input Hopper, or the Input Tray change was manually blocked otherwise. In this case, the reason for the blockade (*Obstacles, jammed documents or similar*) is to be eliminated and via the button **OK** in the error message, an initialization of the Dual Input Hopper to be started.

### 9.2.17. Calibration Failed (Error 224)



This error indicates that a calibration procedure (see chapter 4.7.2.) initiated before could not be carried out properly. For further steps the enforcing administrator or service engineer is to be notified.

### 9.2.18. Paper Inside Paper Input (Error 225)



This error indicates that a scan process has been started, although documents are still in the input area of the scanner. This happens when according to a previous error, this area has not been cleared. To fix the error, before anew Scanstart, proceed according to General Paper Jam Handling (see chapter 9.2.). If the error is not eliminated that way, it may also indicate that scraps of paper, staples or the like are stuck in the input area. Please clean this area thoroughly (see chapter 7.3.).

### 9.2.19. Paper Inside Scan Area (Error 226)



This error indicates that a scan process has been started, although documents are still in the Scan Area of the scanner. This happens when according to a previous error, this area has not been cleared. To fix the error, before anew Scanstart, proceed according to General Paper Jam Handling (see chapter 9.2.). If the error is not eliminated that way, it may also indicate that scraps of paper, staples or the like are stuck in the Scan Area or the Glass Guides are soiled. Please clean this area thoroughly (see chapter 7.3.2.).

### 9.2.20. Paper Inside Rear Output Area (Error 227)



This error indicates that a scan process has been started, although documents are still in the Rear Output Area. This happens when according to a previous error, this area has not been cleared. To fix the error, before a new Scanstart, proceed according to General Paper Jam Handling (see chapter 9.2.). If the error is not eliminated that way, it may also indicate that scraps of paper, staples or the like are stuck this area. Please clean this area thoroughly. Under certain circumstances the Rear Output Pressure Unit must be removed (see chapter 6.6.).

### 9.2.21. Paper Inside Upper/Lower Transport Path (Error 228/230)



This error indicates that a scan process has been started, although documents are still in the respective transport area of the scanner. By "lower" the transport area between the Scan Plane and Output is meant, with "upper" the transport area between the lower transport area and 2nd Output. This happens when according to a previous error, this area has not been cleared. To fix the error, before anew Scanstart, proceed according to General Paper

Jam Handling (see chapter 9.2.). If the error is not eliminated that way, it may also indicate that scraps of paper, staples or the like are stuck in the respective area. Please open the corresponding Output Hopper (see chapter 6.2.) and thoroughly clean the area. When errors occur in the upper transport area, it may also be necessary for this purpose to open the Intermediate Drive Unit (see chapter 6.4.).

### 9.2.22. Paper Inside (2nd) Output Area (Error 229/231)



These errors indicate that a scan process has been started, although documents are still in the respective paper output area of the scanner. This happens when according to a previous error, this area has not been cleared. To fix the error, before anew Scanstart, proceed according to General Paper Jam Handling (see chapter 9.2.). If the error is not eliminated that way, it may also indicate that scraps of paper, staples or the like are stuck in the

respective area. Please open the corresponding Output Hopper (see chapter 6.2.) and thoroughly clean the area.

### 9.2.23. Input Tray(s) Not Installed Properly (Error 232)



This error is displayed when one of the Input Plates is not properly inserted in the Single or Dual Input Hopper while the scanner gets initialized. In this case, check the existing Input Plates for correct seat (see chapter 5.4.1.) and via the button **OK** in the error message re-initialize the Input Hopper.

### 9.2.24. Base Cover Opened (Error 233)



This error appears when the Base Cover of the device was opened during the scan process or an attempt was made to start a scan process, even though the Base Cover is not properly closed. To fix the error, it must be ensured that the Base Cover is installed correctly (see [chapter 6.5](#)).

### 9.2.25. Cover Output Hopper (Top) Opened (Error 234/235)



These errors are displayed when one of the Covers Output Hopper of the device was opened during the scan process or an attempt was made to start a scan process even though one of the Covers Output Hopper was not properly closed. To fix the error, it must be ensured that the Cover Output Hopper or the Cover Output Hopper Top is properly installed (see [chapter 6.3](#)).

### 9.2.26. Sheet Overlength (Error 236)



This error occurs if **Enable Length Control** (see [chapter 4.6.7.1](#)) has been selected and the scanned document has exceeded the run length of the defined paper format (see [chapter 4.6.3.1.1](#)). Depending on the **Orientation** setting (see [chapter 4.6.3.4](#)), this may also be the width of the format. To fix the error, before anew Scanstart, proceed according to General Paper Jam Handling (see [chapter 9.2](#)).

### 9.2.27. Stepper Driver Overheated (Error 241)



This error code will be shown if one of the motor-driver assemblies has been overloaded. In order to remove this error condition, you will need to turn off the scanner for several minutes. Before starting the next scanning process, you may want to check the paper path for foreign bodies that might have obstructed the paper transport mechanism. If the error occurs again, the service engineer or the technical support of InoTec GmbH (see [chapter 10.3](#)) is to be notified.

### 9.2.28. Patch Detection Inconsistency (Error 242)



Patchcode detection is not only performed by the scanner's camera, but also by optical sensors in the scanner's document input section. This error code appears if differing patchcode values are returned by both methods. The offending patchcode sheet should be examined for quality issues and replaced, if necessary. Before anew Scanstart, proceed according to General Paper Jam Handling (see [chapter 9.2](#)).

### 9.2.29. Error while Opening/Closing the Scan Plane (Error 243)



This error code will be shown if the control circuit responsible for opening and closing the Scan Plane (see [chapter 6.1.](#)) has detected a problem. After acknowledging the error message, you should check the mechanism by fully opening and closing the Scan Plane, at least once. If the error occurs again, the service engineer or the technical support of InoTec GmbH (see [chapter 10.3.](#)) is to be notified.

### 9.2.30. Imprinter Front Wrong Value (Error 245)



This error only occurs if the Imprinter Front is active and, due to a recognition error, one of the counter readings for this document is changed after the print position of the Imprinter Front has already been passed. The imprint on the triggering document must be checked. In case the triggering document is a patch code, this should be checked for quality defects and replaced if necessary. Before a new Scanstart, proceed according to General

Paper Jam Handling (see [chapter 9.2.](#)). If this error occurs again, please contact your administrator, to have the scanner recalibrated.

### 9.2.31. Export Media Not Found (Error 246/251/270)



This error is displayed if a USB flash drive cannot be found or written to, when attempting to export scan jobs or profiles (see [chapter 4.7.6.1.](#)), log files (see [chapter 4.7.6.3.](#)) or scanner information (see [chapter 4.7.6.4.](#)). Please check whether a suitable USB flash drive is plugged into one of the USB2 ports and make sure that it is neither full nor write-protected.

### 9.2.32. Import File Not Found (Error 247)



This error is displayed if you are attempting to import scan jobs/profiles (see [chapter 4.7.6.2.](#)), but the USB flash drive cannot be found or read or there is no file on the stick that contains exported scan jobs/profiles. Please check if the USB flash drive is correctly plugged into one of the USB2 ports and contains an export file with scan jobs / profiles.

### 9.2.33. Import File Version Incompatible (Error 248)



This error is displayed if you are attempting to import scan jobs or profiles (see [chapter 4.7.6.2.](#)), but the USB flash drive contains a file with exported scan jobs or profiles that are incompatible with the scanner's firmware version. In case of doubt, please contact the InoTec GmbH software support department.

### 9.2.34. Name Clash at Import (Error 249)



This error occurs if you attempt to import scan jobs or profiles (see [chapter 4.7.6.2](#)) that are already present on the scanner. To correct this error, the scan jobs/profiles (with identical names) on the scanner must first be deleted or renamed (see [chapter 4.5./ 4.6.](#)).

### 9.2.35. Reference Unresolved at Import (Error 250)



If a scan profile is about to be imported (see [chapter 4.7.6.2](#)) which contains settings (e.g. a counter) that are referenced to another profile, this error is displayed if the reference profile is not present on the scanner. To correct this error, the referenced profiles must first be created or imported.

### 9.2.36. Linak Error Detected (Error 252)



This error is displayed if a problem occurs while changing the working height of the scanner (see [chapter 5.2](#)). Please check that the scanner is not overloaded with documents in the input and/or output trays and that there are no obstacles in the path of travel, during height adjustment. If the error is not eliminated that way, the service engineer or the technical support of InoTec GmbH (see [chapter 10.3](#)) is to be notified.

### 9.2.37. Linak Uncalibrated (Error 253)



This error occurs if the calibration of the scanner's height adjustment (see [chapter 5.2](#)) is inaccurate. To correct the error, contact your administrator and have the scanner's height adjustment recalibrated.

### 9.2.38. Double Feed at Paper Input Detected (Error 254)



This message is displayed if the option **Stop at Input** (see [chapter 4.6.4.1.2](#)) has been activated in section **Double Feed Detection**, and a double feed has been detected during the scanning process, directly at the beginning of the paper feed. In this case, it is sufficient to withdraw the documents which were recognized as double feeds from the feeder area, place them back in the input tray and restart the scanning process.

### 9.2.39. Barcode Check Digit Wrong (Error 255)



This error occurs if **Barcode Detection** (see chapter 4.6.4.4.) is active for the current scan profile and if correct barcode type(s) with check digit selected is/are detected, but the check digit of the barcode on the current document is incorrect. To fix the error, before anew Scanstart, proceed according to General Paper Jam Handling (see chapter 9.2.) and make sure to also check the document containing the offending barcode.

### 9.2.40. Barcode Too Long (Error 256)



This error occurs if **Barcode Detection** (see chapter 4.6.4.4.) is active for the current scan profile and if the recognized barcode on the current document exceeds the permitted length of 16 characters. To fix the error, before anew Scanstart, proceed according to General Paper Jam Handling (see chapter 9.2.) and make sure to also check the barcode on the offending document.

### 9.2.41. Double Feed Detected Too Late (Error 257)



This message is displayed if the detection of a double feed was intended to be used as an event to control another function (see chapter 4.2.3.), but the double feed has been detected too late on the current document, for this to work. To fix the error, before anew Scanstart, proceed according to General Paper Jam Handling (see chapter 9.2.) and make sure to also check the document which caused the double feed error.

### 9.2.42. User Unknown (Error 266)



If a user (see chapter 4.1.2.) enters a name that is unknown to the system, during log-in, this error will be displayed. Please repeat the entry and enter a valid user name.

### 9.2.43. Wrong Password (Error 267)



If a user enters a password during a log-in (see chapter 4.1.2.) that does not match the previously specified user name, this error is displayed. Please repeat the input and enter a valid password for the user to be logged in.

### 9.2.44. Roller Assembly Not Installed (Error 271)



This error is displayed if an attempt is made to start a scan even though an input roller assembly has not been detected. To correct the error, the input roller assembly must be properly inserted into its holder (see [chapter 7.2.1](#)).

### 9.3. Internal Warning/Error Messages > 800



If a warning or error message is displayed, whose number is greater than 800, an unexpected condition exists. Some of the errors may contain function keys that allow General Paper Jam Handling (see [chapter 9.2](#)) to be performed. In all other cases, the scanner will have to be restarted. If the state cannot be eliminated, the service technician or technical support of InoTec GmbH (see [chapter 10.3](#)) is to be notified.

### 9.4. Hardware Error Messages > 900



If a warning or error message with a number higher than 900 is displayed, then this is probably caused by a hardware defect which can neither be resolved by re-starting the scanner nor by applying other measures of your own. In order to resolve the problem, you should contact a service technician or technical support at InoTec GmbH (see [chapter 10.3](#)), under all circumstances.

## 9.5. Image Disruptions

In many cases, image disruptions can be eliminated by cleaning the Scan Areas (*see chapter 7.3.2.*) or possibly by a White Calibration (*Contact administrator*). If both actions are carried out unsuccessfully, other causes and their elimination are listed in the following passage

### 9.5.1. Poor Image Quality

**Error:** Smaller letters or characters are digitized mutilated or chunky.

**Cause 1:** Incorrect settings in the scan profiles.

**Remedy 1:** Check the image settings in the scan profiles, including brightness, contrast or gamma values.

**Cause 2:** Unfavorable color of documents. Background and character colors do not have enough contrast (at B/W images).

**Remedy 2:** Use of color filter features is recommended.

**Cause 3:** LED Illumination Unit is soiled or partially damaged, so that a uniform illumination is no longer provided.

**Remedy 3:** Please contact your service technician.

**Cause 4:** Maladjusted or defective Camera Module.

**Remedy 4:** Please contact your service technician.

### 9.5.2. Lines in the image

**Error:** Scanned B/W images have black or white, color images also colored, vertical stripes.

**Cause 1:** Hanging scraps of paper, staples or the like in the Scan Plane or soiled Glass Guides of the scan area.

**Remedy 1:** Open scanner, remove any residue, clean Glass Guides.

**Cause 2:** LED Illumination Unit is soiled or partially damaged, so that a uniform illumination is no longer provided.

**Remedy 2:** Please contact your service technician.

**Cause 3:** Scan CCD soiled or defective.

**Remedy 3:** Please contact your service technician.

## 10. Attachments

### 10.1. Technical Specification

<b>Generally</b>	
Scanning Method	CCD line camera
Illumination	LED Illumination (diffuse)
Optical Resolution	600 dpi
Output Resolutions	75 / 100 / 150 / 200 / 240 / 300 / 400 / 600 dpi Dual or multi resolution possible
Output Compressions	CCITT Group IV, JPEG, PDF/R (Raster) or uncompressed
Color Image	24-Bit color depth, 16.8 million colors (True Color)
Gray Image	8-Bit color depth, 256 gray levels
Bitonal Image	1 Bit color depth, bitonal
Daily Volume	unlimited
<b>Image Processing / PDT (Perfect Document Technology)</b>	
Image Orientation	Bi-cubic skewness correction with black border removal and text-oriented alignment
Gamma Correction	3-level correction (color, black, white)
Color Dropout	Up to 3 color areas definable
Binarisation Method	Dynamic with pixel filters and result preview
Stream Control	Based on Automatic Color Detection and/or Event Control (e.g.. Patch Code)
Blank Page Detection	Content-based dynamic procedure with 2 definable impact areas
<b>Paper Processing / Handling</b>	
Working Height	Motor-driven from 640 mm to 1100 mm (shelf / input tray)
Paper Input	Automatically for batch or single sheet input, adjustable paper guide (also asymmetric), integrated support for long documents, Dual Input Hopper for continuous processing <sup>(5)</sup> .
Max. Stack Height	100 mm (approx. 1000 sheets at 80 g/m <sup>2</sup> paper), definable via profile
Document Width	60 mm to 317.5 mm
Document Length	60 mm to 1950 mm <sup>(1 and 5)</sup>
Paper Formats	<ul style="list-style-type: none"> <li>• ISO formats: A3, A4, A5, A6, A7, B4, B5, B6, B7</li> <li>• US formats: Ledger, Legal, Letter, Executive, Invoice</li> <li>• User defined format</li> </ul>
Maximum Paper Thickness	<ul style="list-style-type: none"> <li>• 2,0 mm</li> <li>• with option "Straight Through Paper Path Elevation" increaseable in four steps up to 5mm <sup>(3)</sup></li> </ul>
Paper Weight	30 g/m <sup>2</sup> to 280 g/m <sup>2</sup>
Input Control	Mechanical paper separation, Paper Input Detection via five optical sensors and Double Feed Detection via three, separately definable, ultrasonic sensors
Flow Control	Paper Flow Control (PFC) with optional length control

Paper Processing / Handling	
Scan Areas	Dust-protected by NoSCRATCH glass guides, variable height with switchable Scan Background (black / white)
Document Output Front	Automatic tray up to 130 mm stack height with active air extraction, adjustable Paper Stop, asymmetrically adjustable Paper Guides, tray extension for long documents (max 485 mm) and removal aid ; HighSpeed Stacker Arm <sup>(6)</sup> for high speed scanning and 2nd Output Hopper for continuous processing <sup>(5)</sup>
Document Output Rear	Rear output at straight paper path, controlled by active switch, to sort out separator sheets or to handle inflexible documents
Indexing	Sequential ID and user-definable event controlled counters for document indexing, integrated patch code and barcode reader (2/5 Interleaved, Code 39, Code 128...)
Imprinter	Two integrated inkjet imprinter with ink management for definable print prior to scanning on document front side and after scanning on rear side
Imprinter HD <sup>(6)</sup>	HD imprinter (resolution 300, 600, 1200 dpi) for up to 4 lines printing. Printing height up to 14.2 mm and barcode printing
Imprinter digital	Digital image print. Content linkable to physical printed information and freely definable.

Interfaces	
Operation	Via Capacitive 9" MultiTouch Communication Panel (MTCP) with integrated user management
Supported OS	Windows 7/8 (32/64 Bit), Windows 10 (64 Bit)
Driver	TWAIN™ / ISIS (MS61 ISIS-compatible), WIA
Connector for Scan PC	USB 3.0 (socket type B) for external scan software
In-/Output	3x USB 2.1 (socket type A) for input devices/storage media. Socket DE-9 for service and up to 4 additional input switches
Self-sufficient Operation	HDMI Port / LAN Port (RJ45 Gigabit Ethernet)

Technical Data	
Power Consumption	max. 600 Watt, Sleep Mode < 1 Watt, Standby Mode = 0 Watt
Electrical Connection	100 - 240 Volt - 50/60 Hz - max. 8 Amp.
Environmental Conditions	Temperature: 10 - 35°C - Relative humidity: 30-80%
Dimensions	<ul style="list-style-type: none"> <li>• Width: 1280 mm (<i>operational</i>) / 720 mm (<i>without fittings</i>)</li> <li>• Depth : 1330 mm / 1150 mm (<i>with / without Rear Output Tray</i>)</li> <li>• Height with one Output: min. 1070 mm / max. 1530 mm</li> <li>• Height with 2nd Output: min. 1390 mm / max. 1850 mm</li> </ul>
Weight	from 190 kg to 240 kg <sup>(5)</sup>
Noise Emission	Operational: max. 45 dB <sup>(5)</sup> (A), Operation: max. 74 dB <sup>(5)</sup> (A)

<sup>(1)</sup> Restrictions in relation to image processing settings and resolution are possible

<sup>(4)</sup> Maximum paper weight can vary and ultimately depend on surface condition and the flexibility of material

<sup>(2)</sup> Maximum admission height is not equal to the maximum paper thickness. Dependent on the material <sup>(5)</sup> Depending on model

<sup>(3)</sup> Corresponds to 10 sheets with Z-folded A4 (80g) in a standard envelope C4

<sup>(6)</sup> Optional

## 10.2. Scan Speeds 801 / 811 / 821 - A4/Letter

Scan Performance - SCAMAX® 801 at	200 / 300 dpi	400 / 600 dpi
Format A4 portrait, simplex, sheets per minute	119 (138)*	59
Format A4 portrait, duplex, pages per minute	238 (276)*	118
Format A4 landscape, simplex, sheets per minute	160 (165)*	80
Format A4 landscape, duplex, pages per minute	320 (330)*	160
Format letter portrait, simplex, sheets per minute	125 (143)*	63
Format letter portrait, duplex, pages per minute	250 (286)*	126
Format letter landscape, simplex, sheets per minute	156 (163)*	78
Format letter landscape, duplex, pages per minute	312 (326)*	156

Scan Performance - SCAMAX® 811 at	200 / 300 dpi	400 / 600 dpi
Format A4 portrait, simplex, sheets per minute	163 (178)*	59
Format A4 portrait, duplex, pages per minute	326 (356)*	118
Format A4 landscape, simplex, sheets per minute	220 (196)*	80
Format A4 landscape, duplex, pages per minute	440 (392)*	160
Format letter portrait, simplex, sheets per minute	172 (185)*	63
Format letter portrait, duplex, pages per minute	344 (370)*	126
Format letter landscape, simplex, sheets per minute	215 (220)*	78
Format letter landscape, duplex, pages per minute	430 (440)*	156

Scan Performance - SCAMAX® 821 at	200 / 300 dpi	400 / 600 dpi
Format A4 portrait, simplex, sheets per minute	222	59
Format A4 portrait, duplex, pages per minute	444	118
Format A4 landscape, simplex, sheets per minute	300	80
Format A4 landscape, duplex, pages per minute	600	160
Format letter portrait, simplex, sheets per minute	235	63
Format letter portrait, duplex, pages per minute	470	126
Format letter landscape, simplex, sheets per minute	293	78
Format letter landscape, duplex, pages per minute	586	156

\* The value in brackets indicates the scanning performance when using a HighSpeed Stacker Arm, since in that case the highest transport speed is always active.  
There is no different speed with the Model 821.

## 10.3. Contact Information

For questions regarding the document scanners from InoTec company, in principle, the local partners or traders should be the first point of contact. Should this not be available, also one of the following contact options can be used depending on the type of question.

for questions regarding technical issues:

✉ [hardware-support@inotec.eu](mailto:hardware-support@inotec.eu)

☎ +49 (0) 6036 9708 16

for questions regarding drivers and software:

✉ [driver-support@inotec.eu](mailto:driver-support@inotec.eu)

☎ +49 (0) 6036 9708 58

## 10.4. Warning/Error Code Table

The following tables contain all warnings and error messages that may occur during operation of the scanner, sorted by their three-digit code, which is displayed above the title in the respective message window. The right column contains the reference to the corresponding chapter in this manual.

Code	Warning Headline	Chapter
100	Scanner Open	<a href="#">9.1.1.</a>
101	Output Hopper Open	<a href="#">9.1.2.</a>
102	2nd Output Hopper Open	<a href="#">9.1.2.</a>
103	Roller Assembly Incorrect Installed	<a href="#">9.1.3.</a>
104	HS Stacker Arm in Wrong Position	<a href="#">9.1.4.</a>
105	2nd HS Stacker Arm in Wrong Position	<a href="#">9.1.4.</a>
106	Cartridge Imprinter Front Undetected	<a href="#">9.1.5.</a>
107	Cartridge Imprinter Back Undetected	<a href="#">9.1.5.</a>
108	Calibration in Progress	<a href="#">9.1.6.</a>
109	Output Tray Full	<a href="#">9.1.7.</a>
110	2nd Output Tray Full	<a href="#">9.1.7.</a>
111	Base Cover Opened	<a href="#">9.1.8.</a>
112	Cover Output Hopper Opened	<a href="#">9.1.9.</a>
113	Cover Output Hopper Top Opened	<a href="#">9.1.9.</a>
114	Changing Straight Through Paper Path	<a href="#">9.1.10.</a>
125	Test Scan Mode is Active	<a href="#">9.1.11.</a>
127	Rear Output Active	<a href="#">9.1.12.</a>
128	Imprinter Front Low On Ink	<a href="#">9.1.13.</a>
129	Imprinter Back Low On Ink	<a href="#">9.1.13.</a>
130	Roller Assembly Not Installed	<a href="#">9.1.14.</a>
133	Input Tray(s) Not Installed Properly	<a href="#">9.1.15.</a>

Code	Error Headline	Chapter
200	Scanner Opened While Scanning	<a href="#">9.2.1.</a>
201	Output Hopper Open	<a href="#">9.2.2.</a>
202	2nd Output Hopper Open	<a href="#">9.2.2.</a>
203	Roller Assembly Incorrect Installed	<a href="#">9.2.3.</a>
204	HS-Stacker Arm in Wrong Position	<a href="#">9.2.4.</a>
205	2nd HS-Stacker Arm in Wrong Position	<a href="#">9.2.4.</a>
206	Cartridge Imprinter Front Undetected	<a href="#">9.2.5.</a>
207	Cartridge Imprinter Back Undetected	<a href="#">9.2.5.</a>
208	Output Tray Full	<a href="#">9.2.6.</a>
209	2nd Output Tray Full	<a href="#">9.2.6.</a>
210	Paper Jam at Paper Input	<a href="#">9.2.7.</a>
211	Paper Jam at Scan Area	<a href="#">9.2.8.</a>
212	Paper Jam at Rear Output	<a href="#">9.2.9.</a>
213	Paper Jam at Lower Transport Path	<a href="#">9.2.10.</a>
214	Paper Jam at Upper Transport Path	<a href="#">9.2.10.</a>
215	Paper Jam Before Paper Output	<a href="#">9.2.11.</a>
216	Paper Jam Before 2nd Paper Output	<a href="#">9.2.11.</a>
217	Paper Jam Inside Output Tray	<a href="#">9.2.12.</a>
218	Paper Jam Inside 2nd Output Tray	<a href="#">9.2.12.</a>

Code	Error Headline	Chapter
219	Paper Jam Inside Output Tray	<a href="#">9.2.13.</a>
220	Paper Jam Inside 2nd Output Tray	<a href="#">9.2.13.</a>
221	Double Feed Detected	<a href="#">9.2.14.</a>
222	Button Quick-Stop Pressed	<a href="#">9.2.15.</a>
223	Switch Input Hopper Failed	<a href="#">9.2.16.</a>
224	Calibration Failed	<a href="#">9.2.17.</a>
225	Paper Inside Paper Input	<a href="#">9.2.18.</a>
226	Paper Inside Scan Area	<a href="#">9.2.19.</a>
227	Paper Inside Rear Output Area	<a href="#">9.2.20.</a>
228	Paper Inside Lower Transport Path	<a href="#">9.2.21.</a>
229	Paper Inside Output Area	<a href="#">9.2.22.</a>
230	Paper Inside Upper Transport Path	<a href="#">9.2.21.</a>
231	Paper Inside 2nd Output Area	<a href="#">9.2.22.</a>
232	Input Tray(s) Not Installed Properly	<a href="#">9.2.23.</a>
233	Base Cover Opened	<a href="#">9.2.24.</a>
234	Cover Output Hopper Opened	<a href="#">9.2.25.</a>
235	Cover Output Hopper Top Opened	<a href="#">9.2.25.</a>
236	Sheet Overlength	<a href="#">9.2.26.</a>
237	Paper Jam at Scan Area	<a href="#">9.2.8.</a>
238	Paper Jam at Scan Area	<a href="#">9.2.8.</a>
239	Paper Jam at Scan Area	<a href="#">9.2.8.</a>
240	Paper Jam at Scan Area	<a href="#">9.2.8.</a>
241	Stepper Driver Overheated	<a href="#">9.2.27.</a>
242	Patch Detection Inconsistency	<a href="#">9.2.28.</a>
243	Error while Open/Close the Scan Plane	<a href="#">9.2.29.</a>
245	Imprinter Front Wrong Value	<a href="#">9.2.30.</a>
246	Export Media Not Found	<a href="#">9.2.31.</a>
247	Import File Not Found	<a href="#">9.2.32.</a>
248	Import File Version Incompatible	<a href="#">9.2.33.</a>
249	Name Clash at Import	<a href="#">9.2.34.</a>
250	Reference Unresolved at Import	<a href="#">9.2.35.</a>
251	Export Media Not Found	<a href="#">9.2.31.</a>
252	Linak Error Detected	<a href="#">9.2.36.</a>
253	Linak Uncalibrated	<a href="#">9.2.37.</a>
254	Double Feed at Paper Input Detected	<a href="#">9.2.38.</a>
255	Barcode Check Digit Wrong	<a href="#">9.2.39.</a>
256	Barcode Too Long	<a href="#">9.2.40.</a>
257	Double Feed Detected Too Late	<a href="#">9.2.41.</a>
258	Paper Jam Inside Output Tray	<a href="#">9.2.12.</a>
259	Paper Jam Inside 2nd Output Tray	<a href="#">9.2.12.</a>
266	User Unknown	<a href="#">9.2.42.</a>
267	Wrong Password	<a href="#">9.2.43.</a>
271	Roller Assembly Not Installed	<a href="#">9.2.44.</a>
≥ 800	Internal Warnings/Error Messages	<a href="#">9.3.</a>
≥ 900	Hardware-Error Messages	<a href="#">9.4.</a>